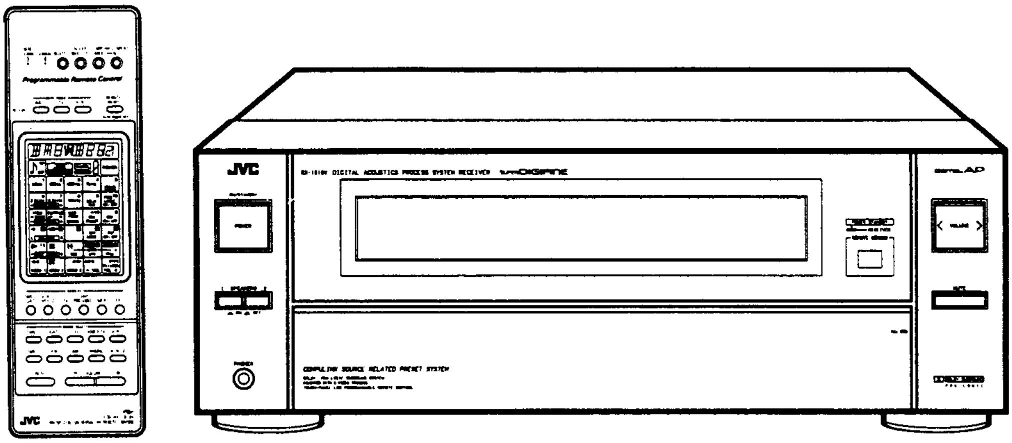
JVC

SERVICE MANUAL

DIGITAL ACOUSTICS PROCESS SYSTEM RECEIVER

MODEL No. RX-1010VTN



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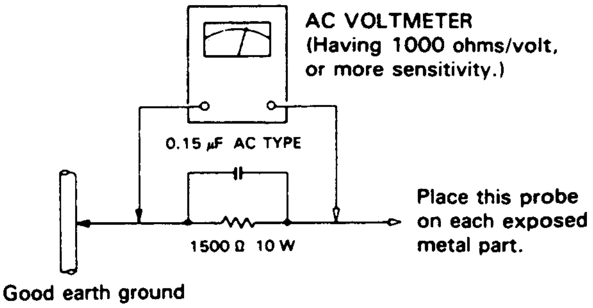
No. 20128
Jul. 1989

Safety Precautions

1. The design of this product contains special hardware and may circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volt, or more sensitivity.)
0.15 μF AC TYPE
1500 Ω 10 W
Place this probe on each exposed metal part.
Good earth ground

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

SPECIFICATIONS

AMPLIFIER SECTION

Output power.
(CD IN → SP.OUT)
2-Channel operation : <For the U.S.A.>
120 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.007% total harmonic distortion.
130 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.2% total harmonic distortion.
125 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.003%** total harmonic distortion.
<For the U.K.>
120 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.007% total harmonic distortion.
120 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz (DIN)
120 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.003%** total harmonic distortion.
4-Channel Operation
Front Channels : **110 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.007 % total harmonic distortion**
110 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz (DIN)
Rear Channel : 15 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz, with no more than 0.07%** total harmonic distortion.
Total harmonic distortion : 0.003 %** at 120 watts (1 kHz, 8 ohms)
Inter modulation distortion : 0.007 % at 120 watts
Damping factor : 45 at 8 ohms, 1 kHz
Input sensitivity/impedance
PHONO (MM) : 2.5mV/47k ohms
PHONO (MC) : 250μV/100 ohms
TAPE 1 PLAY, TAPE 2 PLAY, DAT PLAY, CD, VIDEO, VCR 1 PLAY, VCR 2 PLAY : 230 mV/47k ohms
Recording output level : 230mV
Frequency response
PHONO (RIAA equalization) : 20 Hz — 20 kHz, ±0.5 dB
TAPE 1 PLAY, TAPE 2, PLAY, DAT PLAY CD, VIDEO, VCR 1 PLAY VCR 2 PLAY : 5 Hz — 20 kHz, +0 dB, −1 dB
S.E.A. graphic equalizer
Center frequencies : 63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, 16 kHz
Control range : ±10 dB
Signal-to-noise ratio
PHONO (MM) : 80 dB ('66 IHF)
80 dB ('78 IHF, REC OUT)
66 dB (DIN)
TAPE 1 PLAY, TAPE 2 PLAY, DAT PLAY, CD, VIDEO, VCR 1 PLAY, VCR 2 PLAY : 100 dB ('66 IHF)
85 dB ('78 IHF)
67 dB (DIN)

FM TUNER SECTION

	IHF	**DIN**
Tuning range	87.5 MHz — 108.0 MHz	87.5 MHz — 108.0 MHz
Usable sensitivity	Mono 10.8 dBf (0.95μV/75 ohms, 1.9μV/300 ohms)	—
26 dB quieting sensitivitys	—	1.5 μV/75 ohms 3 μV/300 ohm
50 dB quieting sensitivity	Mono 16.3 dBf (1.8 μV/75 ohms, 3.6 μV/300 ohms)	—
	Stereo 38.3 dBf (22.5 μV/75 ohms, 45μV/300 ohms)	—
S/N 46 dB stereo sensitivity	—	23 μV/75 ohms
Signal-to-noise ratio [at 85 dBf]	Mono 81 dB Stereo 73 dB (IHF-A net, 85 dBf)	Mono 72 dB Streo 64 dB
Total harmonic distortion (1 kHz)	Mono 0.15 % Stereo 0.2 %	Mono 0.1 % Stereo 0.3 %
Frequency response	30 Hz — 15 kHz , +0.5 dB, −3 dB	
Capture ratio (85 dBf)	1.5 dB	—
Alternate channel selectivity	65 dB ± 400 kHz	55 dB ± 300 kHz
Image response ratio	80 dB (at 98 MHz)	
IF response ratio	85 dB (at 98 MHz)	
Stereo separation	40 dB at 1 kHz	40 dB at 1 kHz

AM TUNER SECTION

Tuning range : 530 kHz — 1,710 kHz (For the U.S.A)
522 kHz — 1,629 kHz (For the U.K)
Sensitivity
Loop antenna : 300 μV/m*
External antenna : 30 μV*
Signal-to-noise ratio (100 mV/m) : 50 dB*
Selectivity : 38 dB* ±10 kHz
35 dB* ± 9 kHz
Image response ratio : 40 dB*
IF response ratio : 60 dB
Total harmonic distortion (100 mV/m) : 0.5%*

VIDEO SECTION

Output signal level : 1 Vp-p (1 Vp-p input)
VCR 1 REC
VCR 2 REC
MONITOR OUT
A, B
Impedance : 75 ohms unbalanced
Synchronization : Negative
Signal-to-noise ratio : 45 dB
Crosstalk : 45 dB (3.58 MHz)

GENERAL

Power requirements : AC 120V~, 60 Hz (For the U.S.A.)
AC 240V~, 50 Hz (For the U.K.)
Power Consumption : 780 watts, 925 VA (For the U.S.A.)
910 watts (For the U.K.)
Dimensions (W × H × D) : 17-3/16" × 6-3/16" × 15-1/2" inches (435 × 156 × 393 mm)
Weight : 27.6 lbs. (12.5 kg)

* Measured at 1,000 kHz or 999 kHz
** Measured by JVC Audio Analysis System.

Design and specifications subject to change without notice.

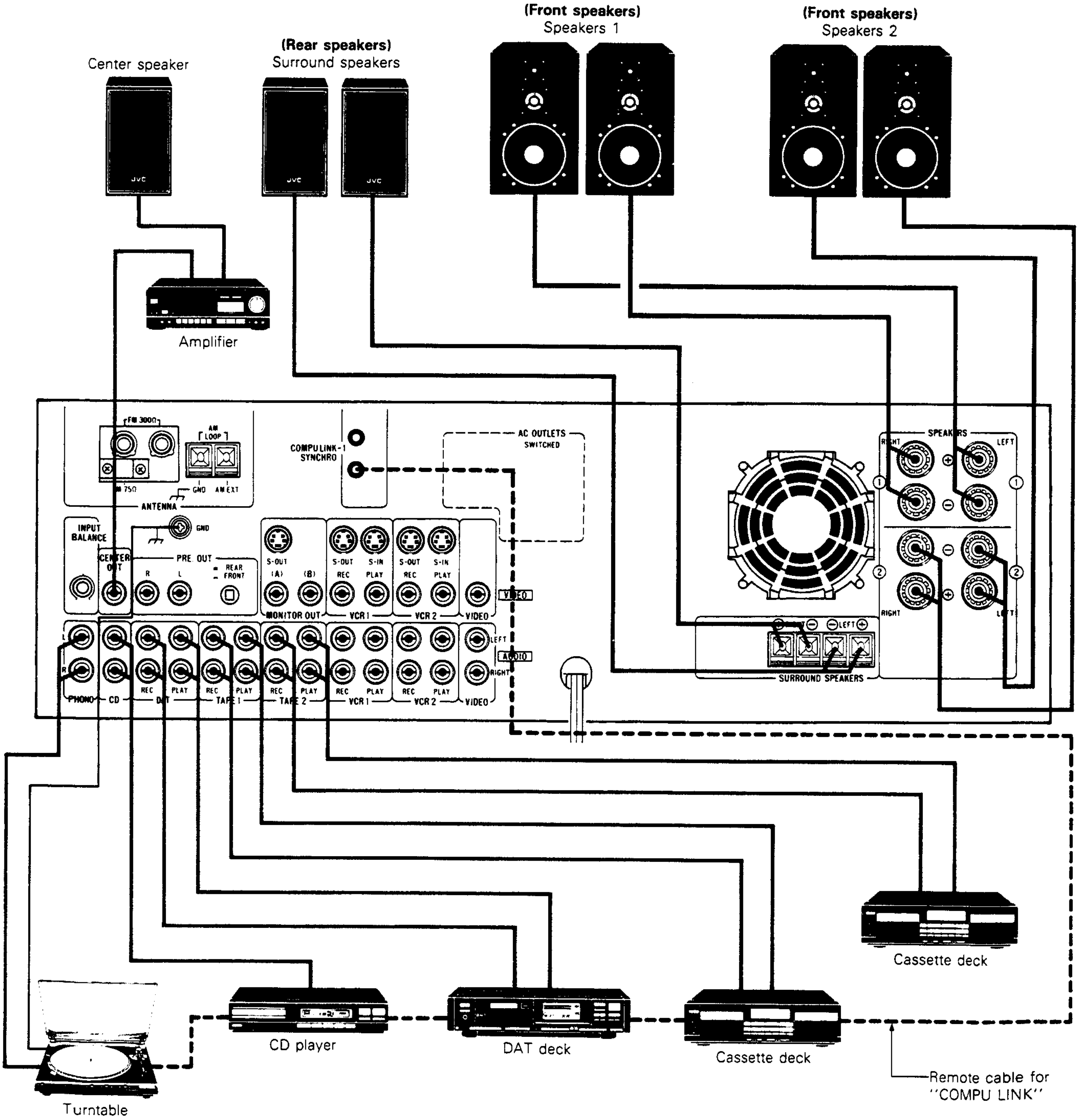
POWER SPECIFICATIONS

Area [redacted]	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120V ∿, 60Hz	780 watts, 925VA
Canada		
Continental Europe	AC 220V ∿, 50 Hz	390 watts
U.K.	AC 240V ∿, 50 Hz	910 watts
Australia		
Other Area	AC 110/120/220/240 V ∿, 50/60 Hz	390 watts

CONNECTION DIAGRAM

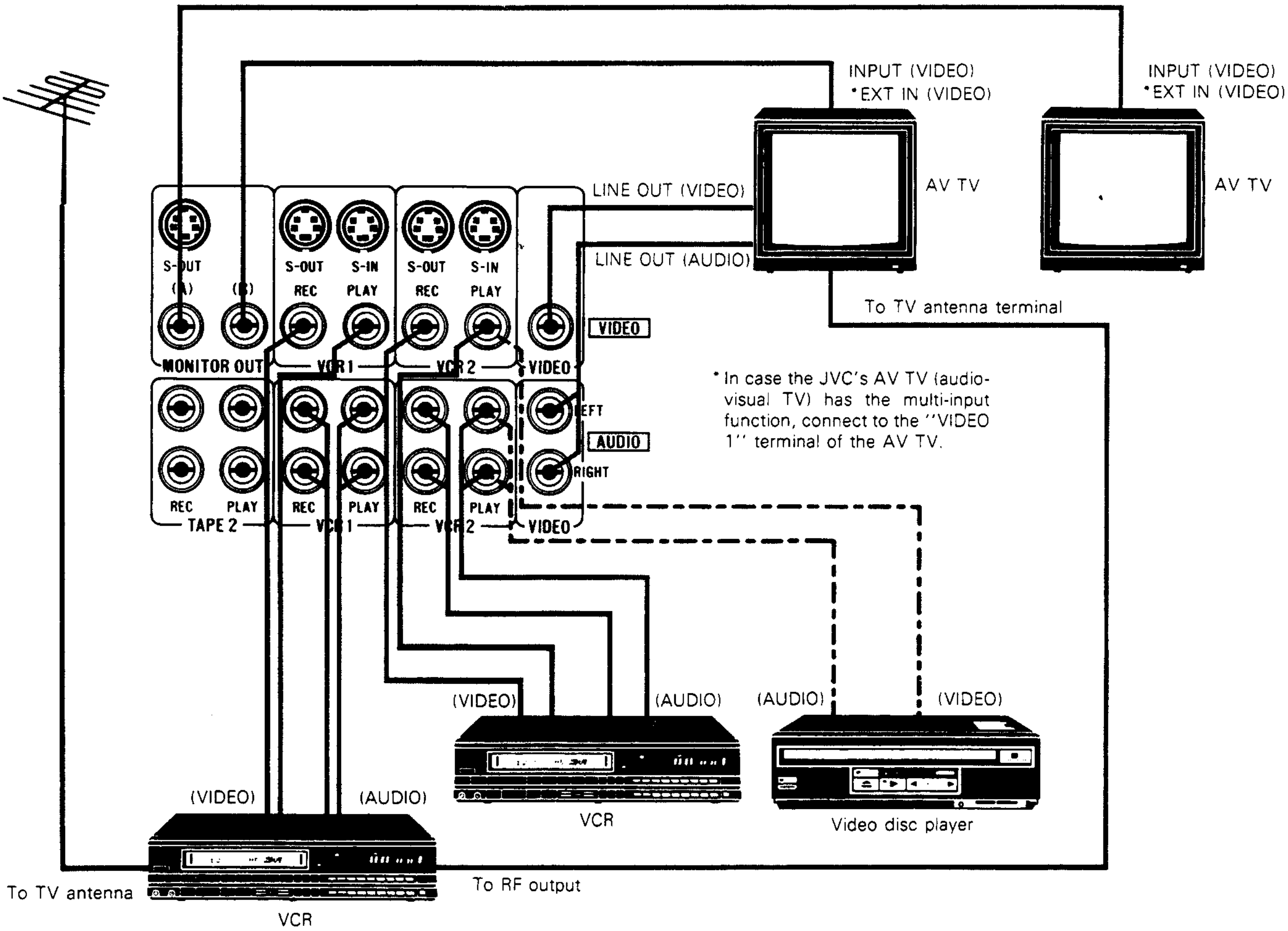
Switch the power off when connecting any cables.

Connections of Audio Components


(Front speakers)
Speakers 1
(Front speakers)
Speakers 2
(Rear speakers)
Surround speakers
Center speaker
JVC
Amplifier
FM 300Ω
FM 75Ω
AM LOOP
GND
AM EXT
ANTENNA
COMPU LINK-1 SYNCHRO
AC OUTLETS SWITCHED
GND
INPUT BALANCE
CENTER OUT
PRE OUT
R
L
REAR
FRONT
S-OUT
(A)
(B)
MONITOR OUT
S-OUT
S-IN
REC
PLAY
VCR 1
VCR 2
VIDEO
LEFT
AUDIO
RIGHT
PHONO
CD
DAT
TAPE 1
TAPE 2
SPEAKERS
RIGHT
LEFT
①
②
⊕
⊖
SURROUND SPEAKERS
Cassette deck
CD player
DAT deck
Cassette deck
Turntable
Remote cable for "COMPU LINK"

Connections of Video Components

- Since mutual interference between video and audio components can cause noise and distorded pictures, you are recommended to use coaxial cable for the TV/video antenna.

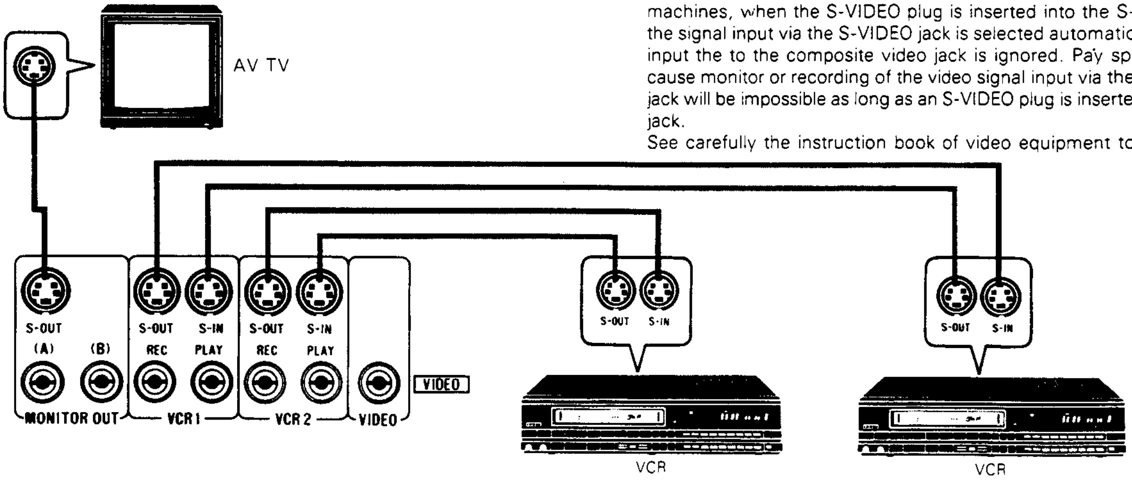

INPUT (VIDEO)
*EXT IN (VIDEO)
INPUT (VIDEO)
*EXT IN (VIDEO)
AV TV
AV TV
LINE OUT (VIDEO)
LINE OUT (AUDIO)
To TV antenna terminal
S-OUT
(A)
(B)
S-OUT
S-IN
REC
PLAY
S-OUT
S-IN
REC
PLAY
MONITOR OUT
VCR 1
VCR 2
VIDEO
VIDEO
LEFT
AUDIO
RIGHT
REC
PLAY
TAPE 2
REC
PLAY
VCR 1
REC
PLAY
VCR 2
VIDEO
(VIDEO)
(AUDIO)
(AUDIO)
(VIDEO)
VCR
Video disc player
(VIDEO)
(AUDIO)
To TV antenna
To RF output
VCR

* In case the JVC's AV TV (audio-visual TV) has the multi-input function, connect to the "VIDEO 1" terminal of the AV TV.

Connecting to video equipment having S-VIDEO jacks.

- For audio terminal connections, see the diagram above.

Some VCRs with S-VIDEO jacks give priority to the video signal input via the S-VIDEO jack over that input via the composite VIDEO jack. With these machines, when the S-VIDEO plug is inserted into the S-VIDEO input jack, the signal input via the S-VIDEO jack is selected automatically and the signal input the to the composite video jack is ignored. Pay special attention because monitor or recording of the video signal input via the composite VIDEO jack will be impossible as long as an S-VIDEO plug is inserted into the S-VIDEO jack.
See carefully the instruction book of video equipment to be connected.


AV TV
S-OUT
(A)
(B)
S-OUT
S-IN
REC
PLAY
S-OUT
S-IN
REC
PLAY
VIDEO
MONITOR OUT
VCR 1
VCR 2
VIDEO
S-OUT
S-IN
S-OUT
S-IN
VCR
VCR

REAR PANEL

① ANTENNA terminals
② GND terminal

AUDIO terminals: For audio signal connection

③ PHONO terminals
④ CD terminals
⑤ DAT REC terminals
PLAY terminals
⑥ TAPE 1 REC terminals
PLAY terminals
⑦ TAPE 2 REC terminals
PLAY terminals
⑧ VCR 1 REC terminals
PLAY terminals
⑨ VCR 2 REC terminals
PLAY terminals
⑩ VIDEO terminals
⑪ CENTER OUT terminals
To use the center speaker (when playing back with DOLBY SURROUND PRO LOGIC), connect an amplifier to these terminals, and then connect the center speaker to the speaker terminal of the added amplifier.
⑫ PRE. OUT SELECTOR
PRE. OUT terminals
— Refer to the section "DOLBY SURROUND PRO LOGIC."

Notes:
- The VCR 1, VCR 2 and VIDEO terminals can also be used to input audio signals from audio equipment.
- Do not connect the remote cable when connecting the JVC cassette deck having COMPU LINK-1/SYNCHRO terminals to the TAPE 2, VCR 1 or VCR 2 terminals.

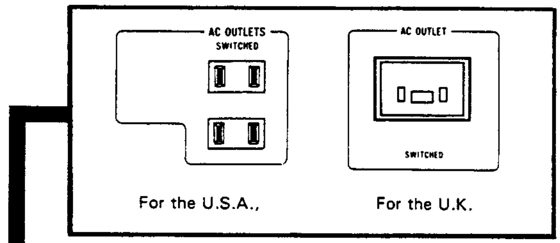
VIDEO terminals: For video signal connection

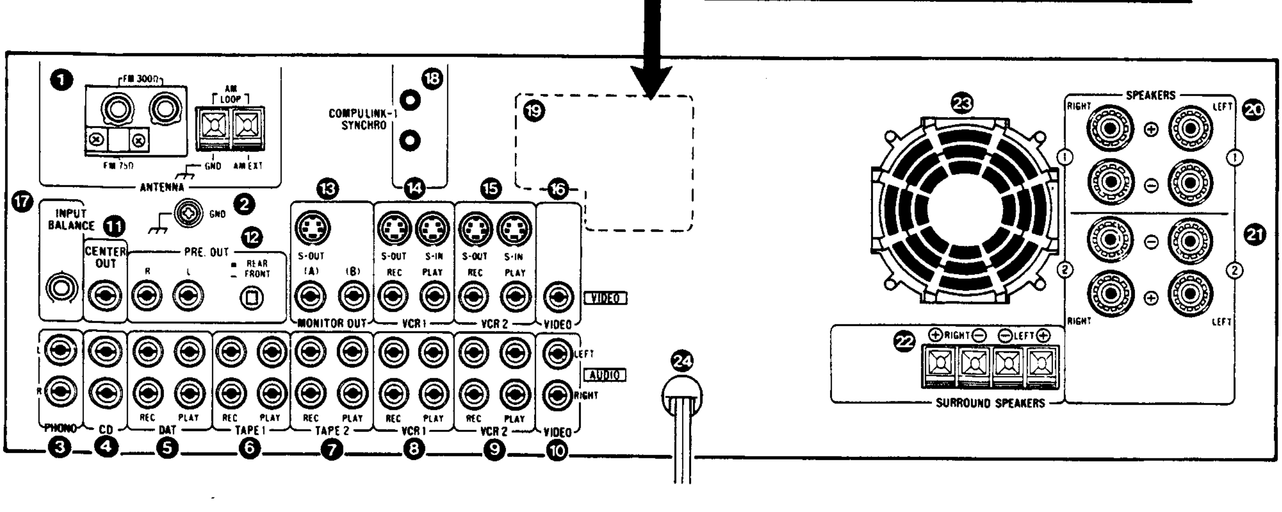
⑬ MONITOR OUT (A) terminal, S-OUT terminal
Connect the VIDEO INPUT terminal of an AV TV to this terminal
MONITOR OUT (B) terminal
When connecting the LINE OUT (TV OUTPUT) terminal of an AV TV to ⑯ VIDEO terminals, connect the VIDEO INPUT terminal of the AV TV to this terminal.
When "VIDEO" is selected with the source select button, no signal is output from this terminal.
⑭ VCR 1 REC terminal, S-OUT terminal
PLAY terminal, S-IN terminal
⑮ VCR 2 REC terminal, S-OUT terminal
PLAY terminal, S-IN terminal
⑯ VIDEO terminal

Others:

⑰ INPUT BALANCE
Refer to "DOLBY SURROUND PRO LOGIC"
⑱ COMPU LINK-1/SYNCHRO terminals
Connect to units provided with COMPU LINK-1/SYNCHRO terminals for the COMPU LINK control system function.
⑲ AC OUTLETS (SWITCHED)
⑳ SPEAKERS 1 terminals
㉑ SPEAKERS 2 terminals
㉒ SURROUND SPEAKERS terminals
㉓ Cooling fan
Excessive internal temperature rises in the RX-1010VTN will start running the fan to cool its interiors for circuit protection.
To ensure full air ventilation, do not block the fan with objects.
The fan will not run in normal conditions.
㉔ Power cord

Notes:
- When connecting components, connect their left and right channels correctly. If channels are reversed, the stereo effect will be degraded.
- Connect speakers with the correct polarity: (+) to (+) and (−) to (−). Reversed polarity will degrade the stereo effect. Be careful to prevent adjacent speaker wires from touching each other.
- Use speakers with the correct impedance. The correct impedance is indicated on the rear panel of the RX-1010VTN.
- The AC OUTLETS do not supply power when the power switch is turned off. Do not connect equipment requiring more than the outlet's rated value.
- Keep connection cords as far as possible from the TV.


AC OUTLETS
SWITCHED
AC OUTLET
SWITCHED
For the U.S.A.,
For the U.K.


①
FM 300Ω
AM LOOP
FM 75Ω
GND
AM EXT
ANTENNA
②
GND
⑰
INPUT BALANCE
⑪
CENTER OUT
PRE. OUT
R
L
⑫
REAR
FRONT
⑱
COMPU LINK-1 SYNCHRO
⑬
⑭
⑮
⑯
S-OUT
(A)
(B)
MONITOR OUT
S-OUT
S-IN
REC
PLAY
VCR 1
S-OUT
S-IN
REC
PLAY
VCR 2
VIDEO
⑲
㉓
SPEAKERS
RIGHT
LEFT
⑳
1
㉑
2
㉒
⊕RIGHT⊖ ⊖LEFT⊕
SURROUND SPEAKERS
L
R
LEFT
AUDIO
RIGHT
REC
PLAY
PHONO
CD
DAT
TAPE 1
TAPE 2
VCR 1
VCR 2
VIDEO
㉔
③
④
⑤
⑥
⑦
⑧
⑨
⑩

ANTENNAS

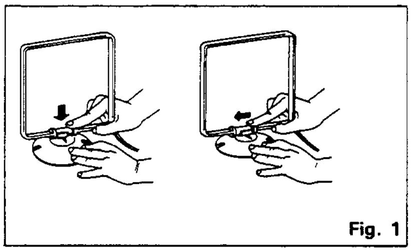


Fig. 1

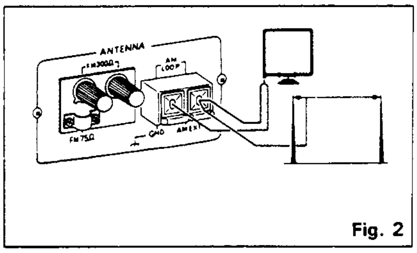

ANTENNA
FM300Ω
AM LOOP
FM75Ω
GND
AM EXT

Fig. 2

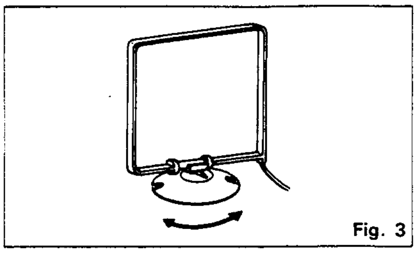


Fig. 3

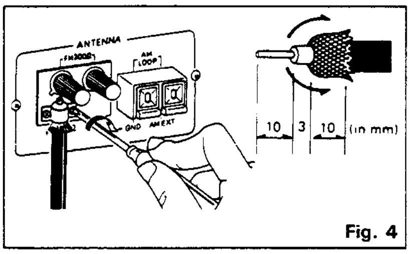

ANTENNA
FM300Ω
AM LOOP
GND
AM EXT
10
3
10
(in mm)

Fig. 4

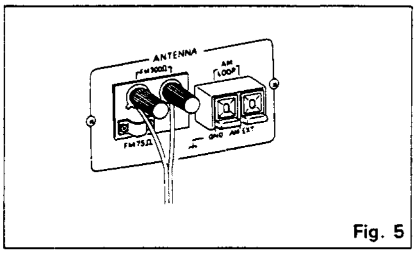

ANTENNA
FM300Ω
AM LOOP
FM75Ω
GND
AM EXT

Fig. 5

AM antennas

Figure 1: How to fix the AM loop antenna

Figure 2: AM loop antenna

This antenna is for the reception of local AM broadcasts.

Figure 2: AM external antenna

If AM reception is unsatisfactory, connect an external AM antenna (single-wire antenna) to the AM ANTENNA terminal.

Figure 3: Noise and interference

Change the direction of the loop antenna, or re-install it in a better position if the reception is noisy.

Notes:

- If the provided loop antenna is not connected or an uninsulated antenna wire touches the rear panel, it will be impossible to receive AM broadcasts.
- When installing an external AM antenna, leave the AM loop antenna connected.

FM antennas

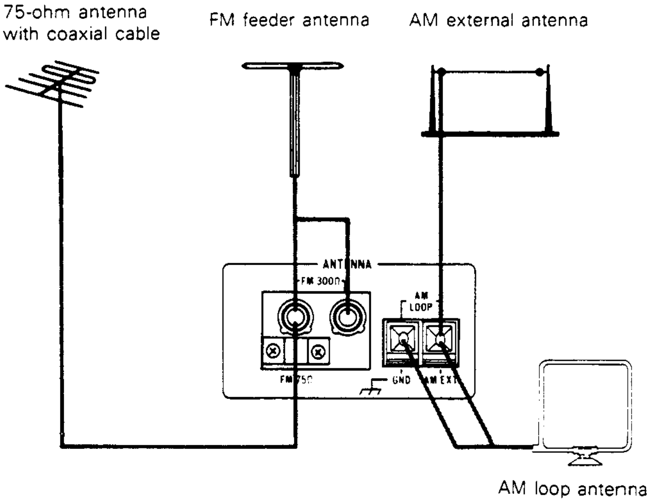
Figure 4: 75-ohm FM antenna with coaxial

Loosen the screws on the bracket and insert the cable through the ring from below. Connect the stripped core to the upper terminal then tighten the ring. The ring is the antenna ground.

Figure 5: FM feeder antenna

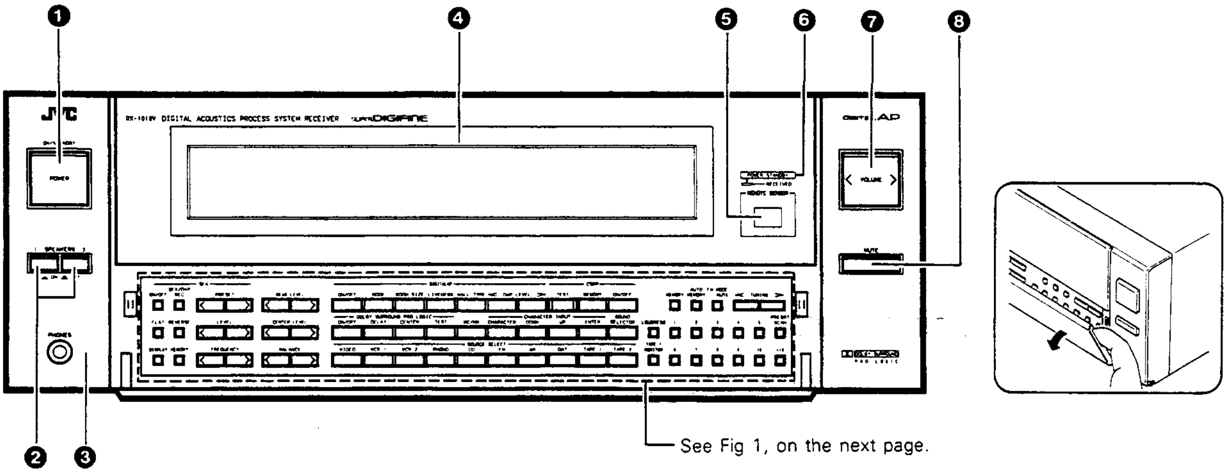
Connect to the 300-ohm terminal. Make sure the feeder antenna wires do not touch any other terminals.

Antenna Connections


75-ohm antenna
with coaxial cable
FM feeder antenna
AM external antenna
ANTENNA
FM 300Ω
AM LOOP
FM 75Ω
GND
AM EXT
AM loop antenna

FRONT PANEL

RX-1010VTN



See Fig 1, on the next page.

❶ POWER (ON/STANDBY)

Press this button to turn the power ON. Press again to turn the power off and activate the STANDBY mode. The STANDBY indicator will light.

A small amount of power (5 watts) is consumed in the STANDBY mode. To turn the power off completely, disconnect the power cord from the wall outlet. Preset data is retained in memory while the power cord is plugged into the wall outlet. If the power cord is disconnected or a power failure occurs, data is retained for two or three days.

❷ SPEAKERS 1, 2

Turns speakers 1 and 2 ON or OFF.

❸ PHONES

Plug headphones into this jack. If you want to hear from the headphones alone, turn OFF speakers 1 and 2.

❹ Display and indicator

Shows the operating status and the connected COMPU LINK equipment.

❺ REMOTE SENSOR

Receives signals from the remote control unit.

❻ RECEIVED and POWER STANDBY indicator

Lights when signals are received from the remote control unit or when the machine is in the STANDBY mode.

❼ VOLUME < , >

Adjusts the volume of sound from the speakers or headphones.

❽ MUTE

Turns sound ON or OFF temporarily.

❾ SEA

Use the following keys for the S.E.A. Graphic Equalizer:

ON/OFF:	Turns the S.E.A. ON or OFF.
SEA/DAP REC:	Turns S.E.A. or DAP recording ON or OFF.
FLAT:	Flattens S.E.A. characteristics.
REVERSE:	Reverses polarity of the S.E.A. characteristics.
DISPLAY:	Displays S.E.A. patterns on the screen.
MEMORY:	Stores an S.E.A. pattern in memory.
PRESET <,>:	Calls an S.E.A. preset pattern.
LEVEL <,>:	Sets an S.E.A. level.
FREQUENCY <,>:	Calls a frequency band to correct.

❿ CENTER LEVEL < , >

Sets the output level of the center channel.

⓫ REAR LEVEL < , >

Set the output level of the rear speakers.

⓬ BALANCE < , >

Adjusts the volume balance between the left and right speakers.

⓭ DOLBY SURROUND PRO LOGIC

Use these keys when you play back with the Dolby Surround Pro Logic sound effect.

ON/OFF:	Turns the Dolby surround Pro Logic sound effect ON/OFF.
DELAY:	Sets the delay time of the rear channels.
CENTER:	Selects the center channel mode.
TEST:	Turns the test tone ON/OFF.

⓮ DIGITAL AP (Digital Acoustics Processor)

Use the following keys for the DAP

ON/OFF:	Turn the DAP ON or OFF
MODE:	Selects the DAP mode.
ROOM SIZE:	Sets the desired sound field size.
LIVENESS:	Adjusts the depth of resonance.
WALL TYPE:	Adjusts the walls materials of simulated room.
DAP LEVEL< , >:	Adjusts the level of the DAP effect to be mixed with the normal stereo sound.

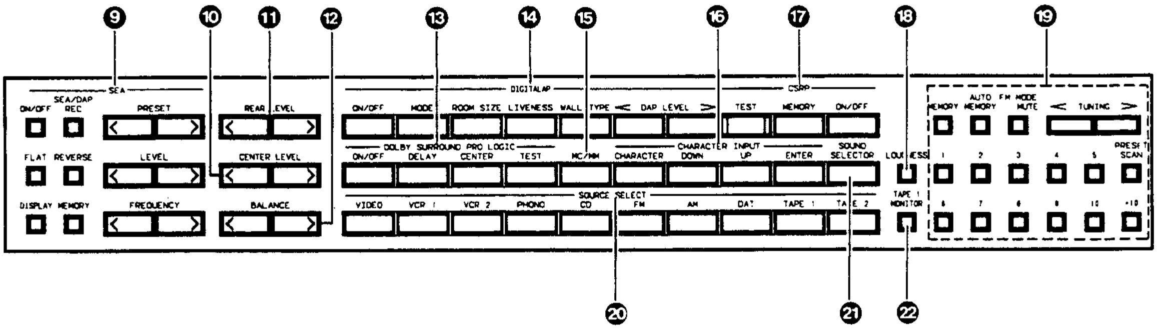

⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
SEA
ON/OFF
SEA/DAP REC
PRESET
REAR LEVEL
FLAT
REVERSE
LEVEL
CENTER LEVEL
DISPLAY
MEMORY
FREQUENCY
BALANCE
DIGITAL AP
ON/OFF
MODE
ROOM SIZE
LIVENESS
WALL
TYPE
< DAP LEVEL >
DOLBY SURROUND PRO LOGIC
ON/OFF
DELAY
CENTER
TEST
MC/MM
CHARACTER INPUT
CHARACTER
DOWN
UP
ENTER
SOUND SELECTOR
LOUDNESS
CSRP
TEST
MEMORY
ON/OFF
SOURCE SELECT
VIDEO
VCR 1
VCR 2
PHONO
CD
FM
AM
DAT
TAPE 1
TAPE 2
TAPE 1 MONITOR
MEMORY
AUTO MEMORY
FM MODE MUTE
< TUNING >
1
2
3
4
5
PRESET SCAN
6
7
8
9
10
+10
⑳
㉑
㉒

Fig. 1 Controls behind swing-down panel.

⑮ MC/MM

Alternate the cartridge mode between MC and MM.

⑯ CHARACTER INPUT

Use the following keys to assign titles or other data to the S.E.A. patterns or to TUNER channels you have preset:

CHARACTER:	Sets the CHARACTER INPUT mode.
DOWN, UP:	Press to select characters (letters, numerals, and symbols).
ENTER:	Store created titles in memory.

⑰ CSRP

COMPU LINK SOURCE RELATED PRESET SYSTEM feature

TEST:	Display all the CSRP data.
MEMORY:	Stores CSRP data in memory.
ON/OFF:	Turns the CSRP feature ON or OFF.

⑱ LOUDNESS

Turns LOUDNESS ON or OFF. The ON position makes up for loss of the human auditory sensation when the sound volume is low.

⑲ TUNER

Use the following keys to listen to AM or FM broadcasts:

MEMORY:	Stores an AM or FM frequency (station) on a preset channel.
AUTO MEMORY:	Stores an AM or FM frequency on a preset channel using the AUTO MEMORY feature.
FM MODE/MUTE:	Selects FM reception modes.
TUNING < , >:	Tunes in an AM or FM frequency.
1 - 10, +10 (Tuner numeric keys):	Press to select preset channels.
PRESET SCAN:	Press to scan preset channels in sequence.

⑳ SOURCE

Use the following keys to select sources:

VIDEO:	Press to watch the source from video equipment connected to the VIDEO terminals.
VCR 1:	Press to operate video equipment connected to the VCR 1 terminals.
VCR 2:	Press to operate video equipment connected to the VCR 2 terminals.
PHONO:	Press to listen to records.
CD:	Press to listen to CDs.
FM:	Press to listen to FM broadcasts.
AM:	Press to listen to AM broadcasts.
DAT:	Press to operate the DAT deck connected to the DAT terminals.
TAPE 1:	Press to operate the tape deck connected to the TAPE 1 terminals.
TAPE 2:	Press to operate the tape deck connected to the TAPE 2 terminals. (alternates between ON and OFF)

㉑ SOUND SELECTOR

When this button is pressed (the SOUND SELECTOR Indicator lights), the sound signal can be selected from a different AUDIO source in combination with the VISUAL signal originating from the VIDEO source.

㉒ TAPE 1 MONITOR

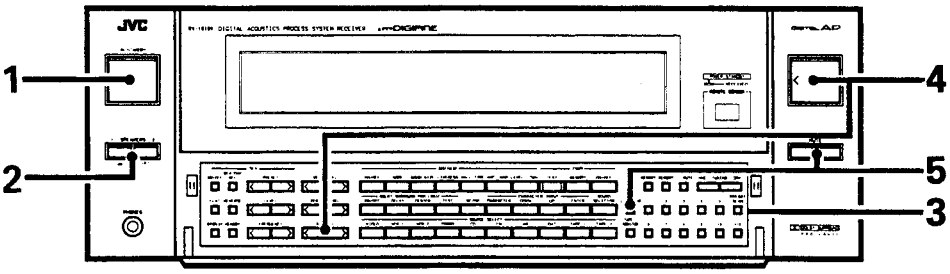
When a 3-head tape deck is connected to the TAPE 1 terminals, Press this button to moniter the sound that has just been recorded on the tape.

OPERATION

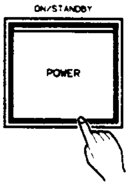
– Before Operating –

Before plugging the power cord into an AC outlet, check to be sure the individual components are connected correctly.

- **Basic operating procedures:**

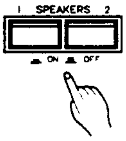


1. Turn the POWER switch to ON.

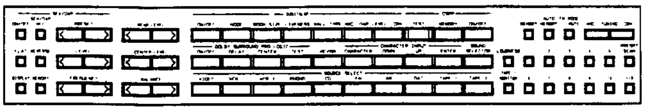

ON/STANDBY
POWER

Note:
If a malfunction occurs when the power is ON, unplug the power cord and then plug it in again.

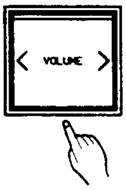
2. Select a speaker system by pressing one of the SPEAKERS keys.

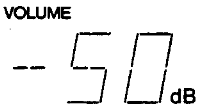

1 SPEAKERS 2
ON OFF

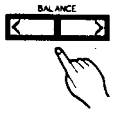
3. Operate these keys, as needed, by following the directions given further on.

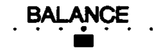


4. Adjust the VOLUME and BALANCE keys to your taste.




VOLUME
-50 dB





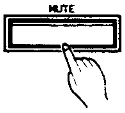
Note:
The sound volume rises as VOLUME reaches "0".
These keys vary their settings while they are being pressed.

5. Press the LOUDNESS and MUTE keys as needed.

- Press to make up for loss of the human auditory sensation when the sound volume is low.

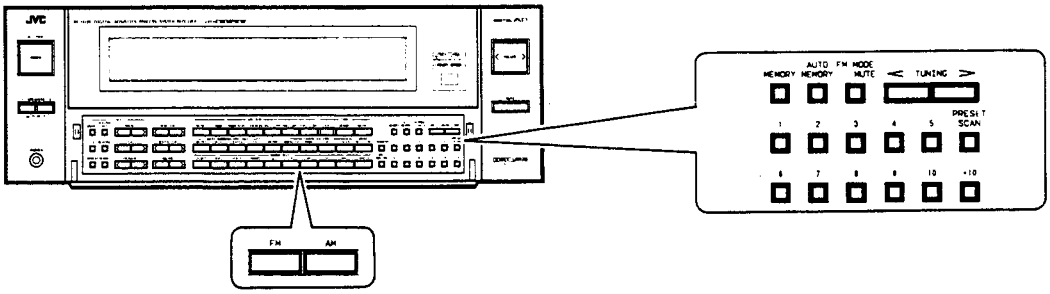
LOUDNESS

- Press to temporarily cancel sound output.



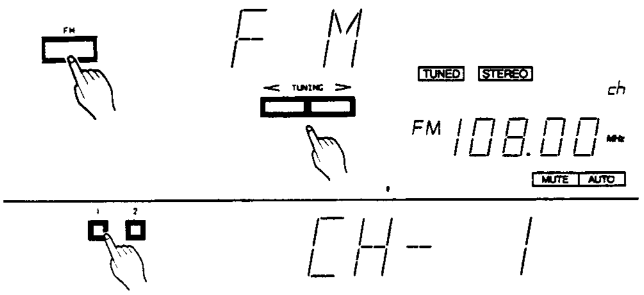
Note:
The MUTE key is reset when the VOLUME or BALANCE keys are pressed.

■ Listening to AM or FM Broadcasts



Press the AM or FM key and the TUNING keys to select a station, or press numeric keys to select a preset channel. (See "Presetting Stations")

<If you select FM.>



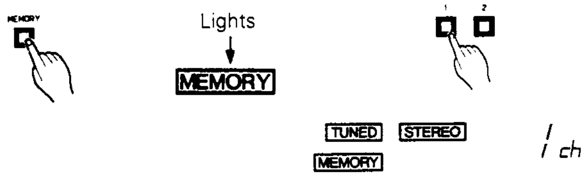
- The TUNED indicator will light when a station is tuned in correctly. Adjust the antenna if the indicator does not light.
- While tuning in an FM station, press the MODE/MUTE key to light the MUTE/AUTO indicator. This cuts out interstation noise while tuning. The STEREO indicator will light when an FM stereo station is tuned in correctly. If the FM stereo station is weak and noisy, press the MODE/MUTE key again to turn off the MUTE/AUTO indicator to improve reception (broadcast becomes monaural).

Note:
To select a station with the TUNING keys, press the FM or AM key first.
Each time the TUNING keys are pressed, the frequency is varied in steps of 10 kHz for AM and 100 kHz for FM. The setting will vary continuously while the keys are pressed and held. Auto-tuning starts when the keys are released and stops when a station is tuned. To halt auto-tuning, press a TUNING key.

— Presetting Stations —

You can preset a total of 40 AM and FM stations (CH-1 through CH-40).

1. Tune in the desired station with the TUNING keys.
2. Press the MEMORY key to light its indicator. Enter the channel number with numeric keys while the indicator is on (for about 5 seconds).



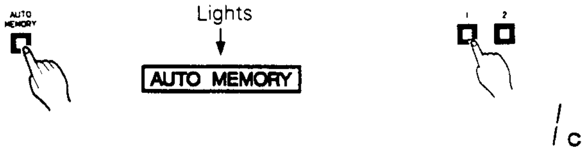
Note:
If the indicator turns off before you enter the channel number, press the MEMORY key again.

3. Repeat this procedure to preset other channels.

AUTO-MEMORY

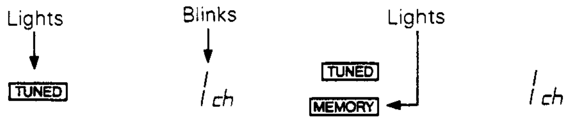
The auto-memory feature scans frequencies upward and presets stations as they are tuned, in ascending channel number order.

1. Using the TUNING keys, select the frequency from which you want auto-memory to start (the lower-limit frequency).
2. Press the AUTO MEMORY key to light its indicator. Enter the starting channel number with the numeric keys while the indicator is on (about 5 seconds).



Note:
If the indicator turns off before you enter the channel number, press the AUTO MEMORY key again.

3. The auto-memory feature starts scanning frequencies upward. The TUNED indicator will light when a station is tuned, with the channel number blinking (for about 5 seconds). The presetting is complete when the MEMORY indicator is lit. This continues until the upper-limit frequency is reached or all 40 channels are filled.



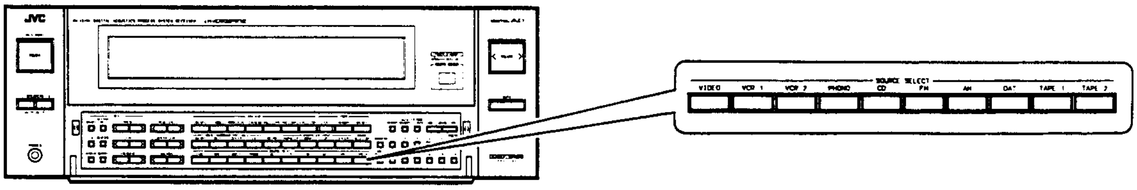
Note:
If you do not want to preset a station, resume scanning by pressing the AUTO MEMORY key while the channel number is blinking. To halt the auto-memory feature, press any TUNER key other than the AUTO MEMORY key.

Using Numeric Keys
To indicate numbers 1 through 10, simply press the appropriate keys. To indicate numbers over 10, press the appropriate combination of keys.
Examples:
To indicate 17, press "+10", then "7".
To indicate 20, press "+10", then "10".
To indicate 26, press "+10" twice, then "6".
To indicate 40, press "+10" three times, then "10".

PRESET SCAN

The PRESET SCAN key is convenient for locating desired channels. When this key is pressed, the preset channels are scanned upward in sequence. Each channel is received for about 4 seconds while the corresponding channel number blinks. When the desired channel is located, press the PRESET SCAN key again to stop scanning. Scanning ends when one cycle of 40 channels is completed. The receiver returns to the station tuned in prior to the start of scanning.

■ Playing Back Sources (VIDEO, VCR 1, VCR 2, PHONO, CD, DAT, TAPE 1, TAPE 2)


JVC
SOURCE SELECT
VIDEO
VCR 1
VCR 2
PHONO
CD
FM
AM
DAT
TAPE 1
TAPE 2

Press the SOURCE key for the desired source, and operate the corresponding equipment.

<If you select CD>

CD player can be operated.

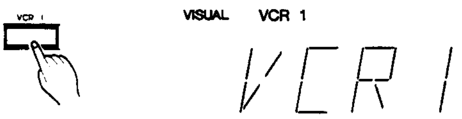
- Pressing the TAPE 2 key will not change the display source indication, but the TAPE 2 MONITOR lights. To play another source, press the TAPE 2 key again to turn off the indicator.
- When you have selected PHONO, set the MC/MM key to suit the type of the cartridge used in the turntable.
  MC: Set to this mode when a using MC cartridge having an output voltage of less than 0.5mV.
  MM: Set to this mode when using a MM cartridge or a MC cartridge having an output of 0.5mV or higher.
  The selected mode indicator lights.

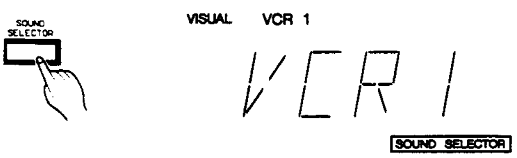
Note:
To operate other source equipment, refer to the appropriate instructions.

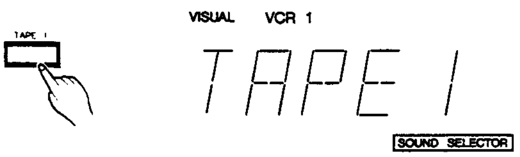
■ Listening to Another Audio Source While Watching VCR 1, VCR 2 or VIDEO

1. Press the VCR 1, VCR 2 or VIDEO key.
2. Press the SOUND SELECTOR key and then select the desired audio source using the SOURCE SELECT keys.

<If you wish to listen to TAPE 1 while watching VCR 1>


VCR 1
VISUAL VCR 1
VCR 1


SOUND SELECTOR
VISUAL VCR 1
VCR 1
SOUND SELECTOR

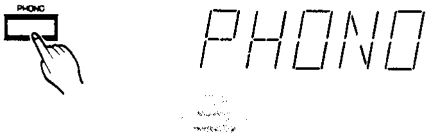

TAPE 1
VISUAL VCR 1
TAPE 1
SOUND SELECTOR

The SOUND SELECTOR function also can be used for recording.

■ Recording

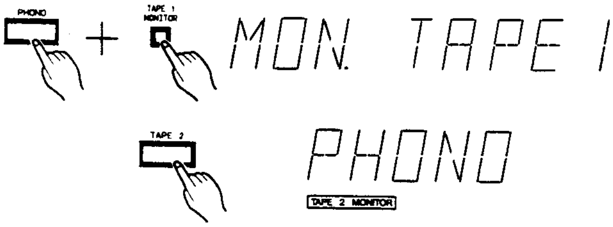
Press the SOURCE key for the desired source, and operate the corresponding source equipment and tape deck.

<If you select PHONO.>


PHONO
PHONO

Turntable and tape deck can be operated.

- Both TAPE 1 terminals and TAPE 2 terminals can be connected a three-head tape deck to monitor the recording. Press the appropriate SOURCE key and the TAPE 1 MONITOR or TAPE 2 key, and operate the source equipment and three-head tape deck.


PHONO
+
TAPE 1 MONITOR
MON. TAPE 1
TAPE 2
PHONO
TAPE 2 MONITOR

Turntable and three-head tape deck can be operated.

Note:
Set the recording level from the tape deck. It can not be set with the VOLUME control of this machine.

— Dubbing Tapes —

<To record from TAPE 1 to TAPE 2>
1. Press TAPE 1.
2. Play back the TAPE 1 deck and record with the TAPE 2 deck.

<To record from TAPE 2 to TAPE 1>
1. Press the TAPE 2 key and a SOURCE key other than TAPE 1.
2. Play back the TAPE 2 deck and record with the TAPE 1 deck.

- Dubbing can be similarly performed between TAPE 1, TAPE 2, DAT, VCR 1 and VCR 2. When dubbing from the TAPE 2 deck to another tape deck, press the TAPE 2 key together with the SOURCE key other than the tape deck.

USING THE S.E.A. GRAPHIC EQUALIZER

The S.E.A. Graphic Equalizer breaks down the audible frequency range into seven bands at intervals of 4/3 octave. Each band of tones can be adjusted as disired by the listener (±10dB in steps of 2 dB on the basis of 0dB). Thus allowing you to make the necessary adjustments in the presicely appropriate frequency bands.

***You can customize the sound to your taste.**

***You can correct subtle frequency to suit the acoustic characteristics of your listening room.**

***You can compensate for the conditions of audio equipment.**

Use the following keys for the S.E.A. Graphic equalizer.

ON/OFF:	Turns the S.E.A. Graphic equalizer.
SEA/DAP REC:	Turn the S.E.A. recording ON or OFF.
FLAT:	Flatten the S.E.A. characteristics.
REVERSE:	Reverses polarity of the S.E.A. characteristics.
DISPLAY:	Display the current S.E.A. pattern in ascending frequency.
MEMORY:	Stores an S.E.A. pattern in memory.
PRESET <,>:	Calls an S.E.A. preset pattern.
LEVEL <,>:	Set an S.E.A. level.
FREQUENCY <,>:	Calls a frequency band to correct.

S.E.A. preset patterns

A total of 10 preset patterns can be used: 5 programmed preset patterns, and 5 manual patterns which you create (SEA-A through E).

— Program pattern features —

These five S.E.A. patterns were preset at the factory to offer suggested settings for various types of audio programs. Each preset pattern is shown below.

HEAVY:
For music with a heavy beat, such as disco music.

CLEAR:
For crisp, clear sound with transparent highs.

SOFT:
For background music, at low volume level.

MOVIE:
For TV, VCR, and videodisc sound.

VOCAL:
For music that is chiefly vocal, or speech.

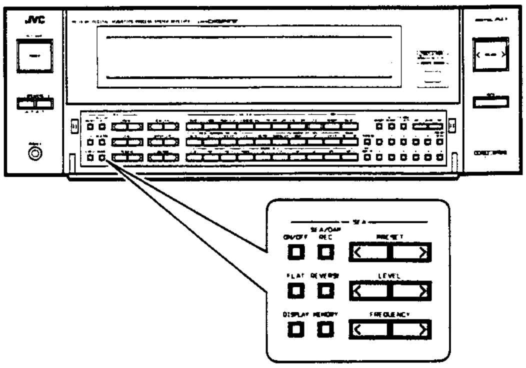
- After recalling these patterns, you can further change each frequency band to suit yourself. However, since they are representative patterns, the original, stored pattern will be unchanged.

S.E.A. recording

The sound corrected by S.E.A. can be recorded on the tape deck connected to the TAPE 1, DAT, VCR 1 or VCR 2 terminal.

- The SEA REC key is not functional when the SEA ON/OFF key is OFF, or Dolby Surround Pro Logic is ON.

S.E.A. Operation

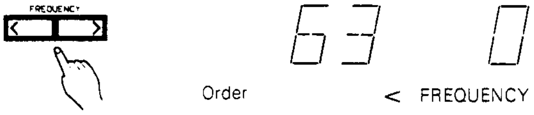


— Creating an S.E.A. pattern —

1. Press the SEA ON/OFF key.

ON/OFF
SEA ON

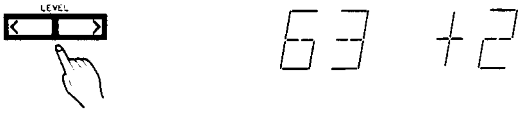
2. Press the FREQUENCY keys to call the desired frequency,



Order < FREQUENCY >

[63Hz]→[160Hz]→[400Hz]→[1kHz]
→[2.5kHz]—[6.3kHz]—[16kHz]

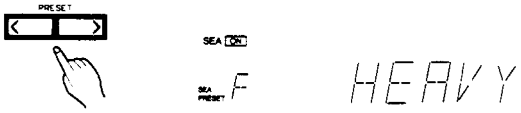
3. Press the LEVEL keys to adjust the SEA level.



Repeat Step 1 ~ 3 for each additional frequency desired.

Note:
When a frequency has been called, press the LEVEL keys while the frequency is displayed (about 5 seconds). If the display is cleared before you press the LEVEL keys, it can be recalled by pressing either FREQUENCY key.

— Recalling a preset pattern —

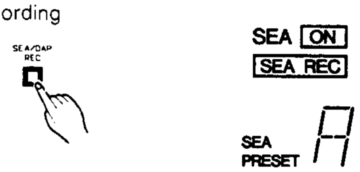


Display shows the title of recalled pattern.

Order < PRESET >

"SEA"—[SEA-A]—[SEA-B]—[SEA-C]—[SEA-D]
→[SEA-E]—[HEAVY:F]—[CLEAR:G]
→[SOFT:H]—[MOVIE:I]—[VOCAL:J]

- SEA Recording



Operate the recording procedure as instructed in "recording".

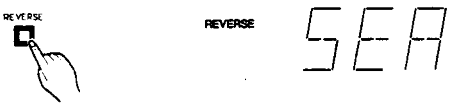
S.E.A. recording is not available with the tape deck connected to the TAPE 2 terminals.

- Flatten the SEA characteristics.

FLAT indicator lights (for about 5 seconds).

Pressing the FLAT key while a pattern is yet to be preset will clear it. Be careful not to press the FLAT key inadvertently.

- Reverse



The S.E.A. pattern is displayed in ascending frequency. Then REVERSE indicator turns off.

Press again to return to the original polarity.

- Display

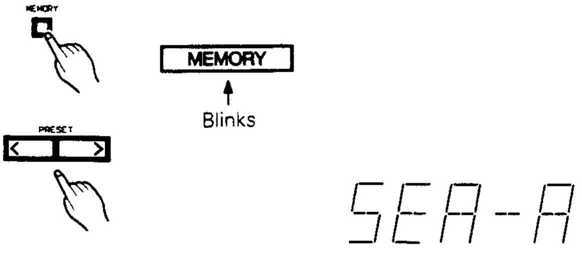
DISPLAY
SEA

The S.E.A. pattern is displayed in ascending frequency order (for a preset pattern, its title).

To stop the display, press DISPLAY key again.

— Presetting Manual Patterns —

1. Create an S.E.A. pattern to preset as instructed in "Creating an S.E.A. pattern".
2. Press MEMORY key to blink its indicator. Call one of the patterns to store (SEA-A through E) by pressing the PRESET keys while the indicator is blinking (about 5 seconds).

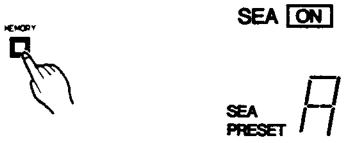


Order < PRESET >

[SEA-A]—[SEA-B]—[SEA-C]—[SEA-D]—[SEA-E]

Note:
Press the MEMORY key again if the indicator stops blinking before you press the PRESET keys.

3. Press the MEMORY key again while the indicator is blinking (about 5 seconds). Memory presetting is complete when the MEMORY indicator stops blinking.



The preset SEA patterns can each be given a five-character title. See the section "Entering Characters" for futher details.

- **The reverse feature** offers you a noise reduction effect during tape recording. First, record sources with emphasis on high-pitched tones by using SEA; during playback, activate reverse SEA, to cut hissing noise inherent in tape recording.
- **The S.E.A. ON/OFF key** enable you to compare the sound corrected by S.E.A. with the original (not corrected) sound during procedure creating S.E.A. pattern. Pressing the ON/OFF key to turn the S.E.A. OFF offers you the sound not corrected. When press ON/OFF key again the S.E.A. pattern being created could be recalled, and corrected sound would be heard.
  *Because pressing the FLAT key while a pattern yet to be preset will clear it, be sure to use ON/OFF key.
- SEA is functional only with FRONT channel signals.

Frequency band responses

63 Hz: Raise to emphasize the very low base response of organs, drums, and contrabass. When de-emphasized, eliminated unclear response at low frequencies.

160 Hz: Emphasize to obtain a more expanded low sound. De-emphasize to eliminate unclear sound caused by large or nearly empty listening rooms.

400 Hz: This frequency range is the base on which music is constructed. Emphasize to put real punch in your music.

1 kHz: Most effective in emphasizing or de-emphasizing the human voice.

2.5 kHz: The human hearing is most sensitive to this freuqncy. If the music sounds hard or metallic, de-emphasize it.

6.3 kHz: This frequency band varies the tonal expression, influencing the subtleties of the music.

16 kHz: Boosting this frequency range suitably adds to the delicacy of highs, with cymbals and triangles resounding in a more ear-pleasing manner, and provides a feeling of extension.

Preset Pattern Frequency Responses (Unit: dB)

Frequency band / Preset pattern	63Hz	160Hz	400Hz	1kHz	2.5kHz	6.3kHz	16kHz
HEAVY	+10	+2	−2	0	0	+2	+4
CLEAR	+4	−4	0	+4	+2	+4	+6
SOFT	+2	0	0	0	0	−2	−6
MOVIE	+6	+2	0	0	−2	0	+2
VOCAL	−2	−2	+2	+4	+2	0	+2
SEA-A							
SEA-B							
SEA-C							
SEA-D							
SEA-E							

Note: To assign titles to the preset patterns, see "Entering Characters".

DIGITAL ACOUSTICS PROCESSOR (DAP)

Digital Acoustic Processor (DAP) incorporated in the RX-1010 VTN creates a sound field (the reflected sound that a listener hears from various directions) which simulates that in a concert hall, etc.

You can get the exciting sound you would at a live performance.

Use the following keys for DAP

ON/OFF:	Turn the DAP ON or OFF.
MODE:	Selects the DAP mode.
ROOM SIZE:	Sets the desired sound-field size in 5 steps.
LIVENESS:	Adjust the depth of resonance in 5 steps.
WALL TYPE:	Adjust the walls materials of simulated room in 3 steps.
DAP. LEVEL:	Adjust the level of the DAP effect to be mixed with the normal stereo sound.
REAR LEVEL:	Set the output level of the rear speakers.
SEA/DAP REC:	Turns the DAP recording ON or OFF.

DAP MODE:

The DAP can create seven modes of acoustic space.

SYMPHONY HALL: (HALL 1):

This simulates the sound field of a typical concert hall for classical music, having 2000 seats.

RECITAL HALL: (HALL 2):

This simulates the sound field of a small concert hall for chamber music, etc, having 500 seats.

OPERA HOUSE:

This simulates the sound field of an opera house with a high ceiling and a short depth where the seats are tiered.

CHURCH:

This simulates the sound field of a church with a high ceiling, which has longer-duration reflections.

LIVE CLUB:

This simulates the sound field of a live club with a low ceiling and an intimate atmosphere where musicians play near the audience.

STADIUM:

This simulates the sound field of a large open-air arena with tiered stand.

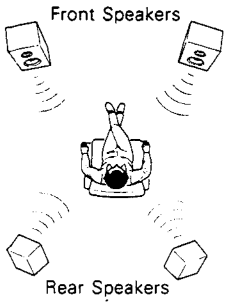
MOVIE THEATER:

This simulates the sound field of a movie theater. Use this mode to play back video software that does not bear the double-D ▯▯ mark.

• DAP recording

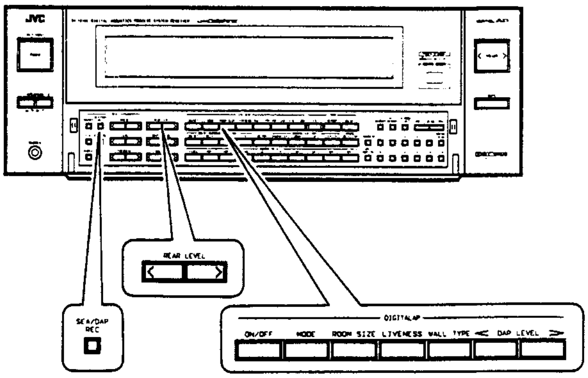
The sound effected DAP by can be recorded on the tape deck connected to the TAPE 1, DAT VCR 1 or VCR 2 terminal. DAP REC key is not functional when the DAP key is OFF, or Dolby Surround Pro Logic is ON.

< speaker layout example >

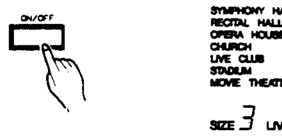


- You can enjoy the benefits of the DAP in a regular 2-channel playback stereo system, but greater presence can be experienced in a 4-channel system with the addition of rear speakers.
- If rear speakers are used, connect them to the SURROUND SPEAKER terminals.
- The rear speakers should prove most effective when installed somewhat higher than the height of your ears at the listening position.

■ Playing Back with DAP sound Effect

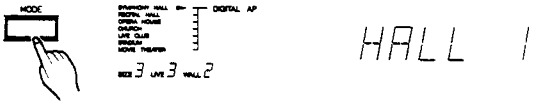


1. Set the DAP key to ON.



2. Set the DAP mode with the MODE key.

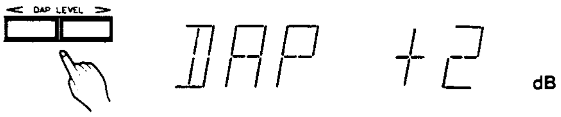
< If you select SYMPHONY HALL >



Each time you press the MODE key, the mode will change in the following order.

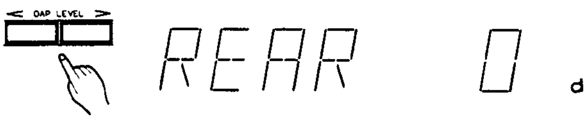
HALL 1 — HALL 2 — OPERA HOUSE — CHURCH
MOVIE THEATER — STADIUM — LIVE CLUB

3. Play back the source.
4. Set the level of the DAP effect sound to be mixed with the front speakers, using the DAP LEVEL keys.



Order
no effect —[−16]—[−14]—[−12] ···· [−6] ···· [0] ···· [+6]
average value

5. Set the output level of the rear speakers using the REAR LEVEL keys. (only for 4ch. operation)



Order
[−20]—[−18]—[−16] ···· [0] ···· [+16]—[+18]—[+20]
average value

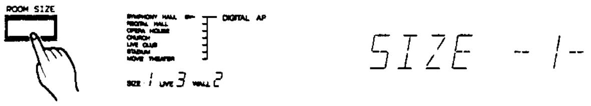
- The REAR LEVEL helps balance the sound with respect to the front speakers. Select the setting you prefer as you listen to the source.

■ Parameter change

By changing the parameters, you can create your own original sound-field pattern.

● ROOM SIZE

< If you select "1" >


ROOM SIZE
SIZE -1-

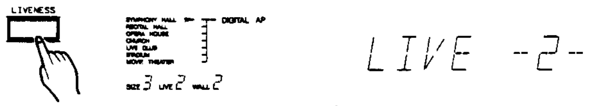
Each time you press the key, the room size changes in the following order:

→Wide

↱ 1 → 2 → 3 → 4 → 5 ↰

● LIVENESS

< If you select "2" >


LIVENESS
LIVE -2-

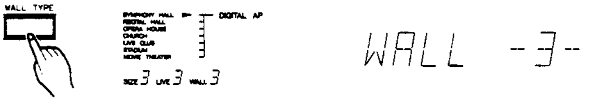
Each time you press the key, the Liveness changes in the following order:

→Deep

↱ 1 → 2 → 3 → 4 → 5 ↰

● WALL TYPE

< If you select "3" >


WALL TYPE
WALL -3-

Each time you press the key, the wall type changes in the following order:

→Hard

↱ 1 → 2 → 3 ↰

● DAP Recording

SEA/DAP REC
DAP REC

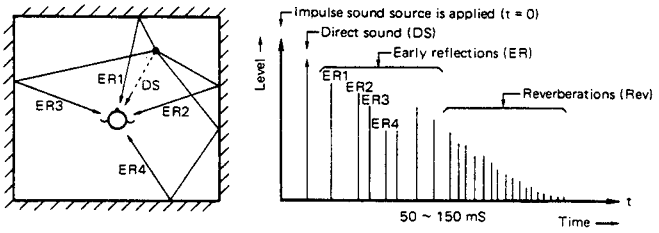
Operate the recording procedure as instructed in "Recording" page 11.

DAP recording is not available with the tape deck connected to the TAPE 2 terminals.

■ Parameter information

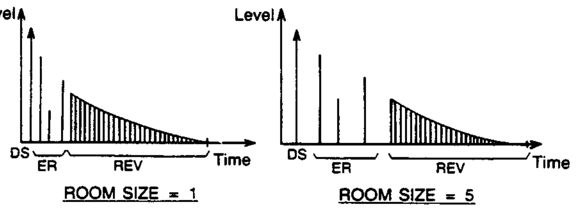
The sound patterns comprising a sound field is classified into three types of sound:

- Direct sound from the sound source
- Reflected sound from wall and ceiling (Early Reflections)
- Reverberating sound, repetition of reflected sound


ER1
DS
ER2
ER3
ER4
Impulse sound source is applied (t = 0)
Direct sound (DS)
Early reflections (ER)
Reverberations (Rev)
Level
ER1
ER2
ER3
ER4
t
50 ~ 150 mS
Time

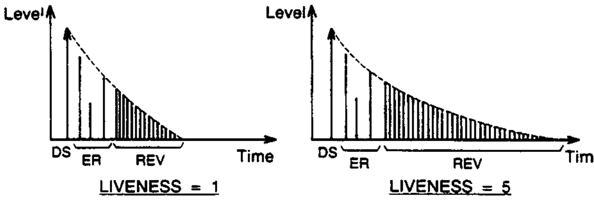
The following three parameters help you create a sound field tailored to your taste by varying these sets of data in a complex manner:

ROOMSIZE



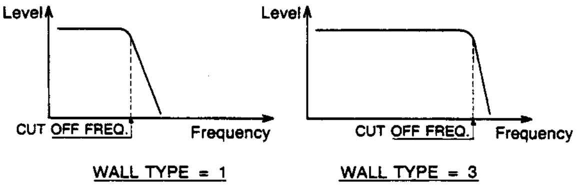
Early reflection intervals vary with changes in predelay time.

LIVENESS



The decay time for early reflections and reverberations as a whole varies.

WALL TYPE



The cut-off frequency of the low-pass filter for producing sound effects varies.

DOLBY SURROUND PRO LOGIC

The soundtrack of the video software a mark includes exactly the same surround sound information as the films you see in movie theatres.
As RX-1010VTN incorporates a Dolby Pro Logic surround decoder circuit, you can get the Dolby Stereo theatre's ambience and effect, when watching these video softwares.

Dobly surround Pro Logic decoder provides:
- Four primary sound channels — LEFT, RIGHT SURROUND and aditional CENTER channel.
- Adaptive Matrix to actively derive each channel signal.

The result is that Dolby Pro Logic has the effect of widening the useful listening area and enhansing directional effects.

You can enjoy listening to all Dolby surround software previously available.

Use these keys when you play back with Dolby surround Pro Logic.

ON/OFF:	Turns the Dolby surround Pro Logic sound effect ON/OFF
DELAY:	Sets the delay time of the rear channels.
CENTER:	Selects the center channel mode.
TEST:	Turns the test tone ON/OFF.
REAR LEVEL <,>:	Sets the output level of the rear speakers.
CENTER LEVEL <,>:	Sets the output level of the center speakers.

CENTER CHANNEL MODE

There are four center channel modes:

NORMAL:
Select this mode when using a compact speaker (which has difficulty reproducing low frequencies) to reproduce center channel signals.
- Center channel signals are reproduced through the center speaker, with low frequencies being cut off.
- Low-frequency center channel signals are reproduced from the front left and right speakers.

WIDE:
Select this mode when using a speaker similar to the front speakers to reproduce center channel signals.
- Center channel signals are reproduced through the center speaker as they are.

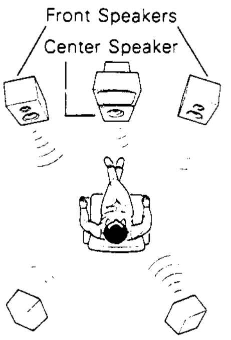
PHANTOM:
Select this mode when not using the center speaker.
- Center channel signals are distributed between the front left and right speakers with an equal level.

OFF:
Select this mode when adjusting the left and right input balance.

TEST (Adjusting the output level balance)

Pressing the TEST key outputs a test tone. Using this test tone, the output level balance between channels can be adjusted easily.

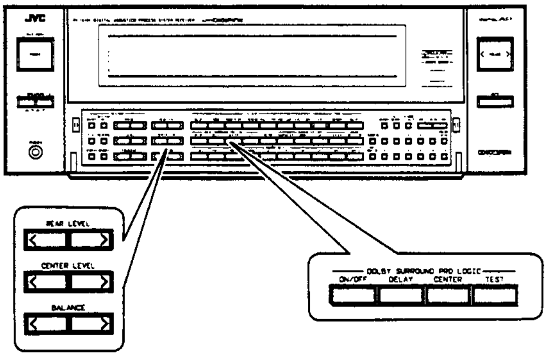
< Speaker layout example >



It is recommended that antimagnetic speakers be installed near the TV monitor (particularly, the center speaker).

- To use the center speaker, connect an amplifier to the CENTER OUT terminal on the rear panel, and then connect the center speaker to the speaker terminals of the added amplifier.
- The center speaker is not required if you have selected the PHANTOM mode with the CENTER key.

■ Adjustment



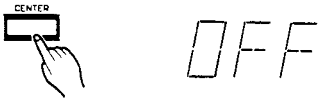
Make the following adjustment to get maximum out of the surround sound effect:

1. Set the ON/OFF key to ON.

ON/OFF
DOLBY SURROUND
PRO LOGIC
DELAY TIME
3
PHANTOM

— Adjusting the input level balance —

2. Set the center OFF mode with the center key.



Each time you press the CENTER key, the mode will change in the following order.

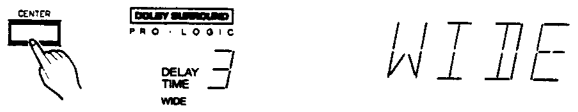
→ PHANTOM → NORMAL → WIDE → OFF ┐

3. Playback a monaural source (AM broadcast, etc.) with DOLBY SOURROUND still set.
4. Adjust the INPUT BALANCE knob so that the sound coming from the front and the rear speakers is reduced to a minimum.

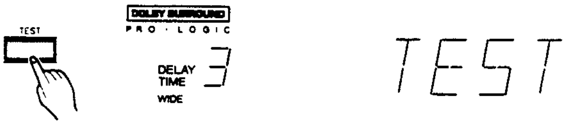
— Adjusting the output level balance —

5. Select the CENTER mode with the CENTER key.

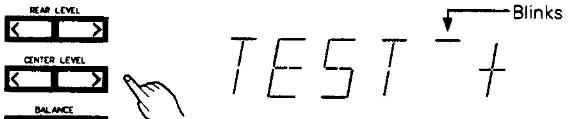
<If you select "WIDE">


CENTER
DOLBY SURROUND
PRO · LOGIC
DELAY TIME 3
WIDE
WIDE

6. Press the TEST key to turn the Test tone ON.


TEST
DOLBY SURROUND
PRO · LOGIC
DELAY TIME 3
WIDE
TEST

7. You can hear the test tone clockwise through left-center-right-surround repeatedly.
Adjust the test tone to the same level with the REAR LEVEL keys, CENTER LEVEL keys, and the BALANCE keys.


REAR LEVEL
CENTER LEVEL
BALANCE
TEST -+

Blinks

The channel from which the test tone is being output is displayed.

- You can set the rear level and the center level up to ±20 dB using 0 dB as the average value.

< REAR LEVEL >, < CENTER LEVEL >

Order
[−20]−[−18]−[−16]····· [0] ····· [+16]−[+18]−[+20]

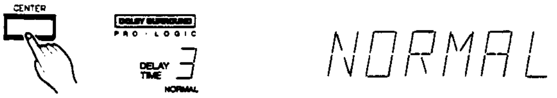
Center level adjustment is not required if the PHANTOM mode has been selected.

■ Playing Back with a Surround-sound Effect.

1. Set the ON/OFF key to ON.

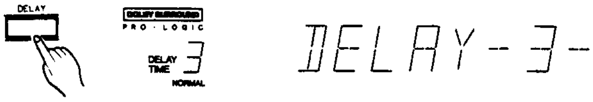
ON/OFF
DOLBY SURROUND
PRO · LOGIC
DELAY TIME 3
PHANTOM

2. Set the Center channel mode with the CENTER key.
< If you select NORMAL mode >


CENTER
DOLBY SURROUND
PRO · LOGIC
DELAY TIME 3
NORMAL
NORMAL

3. Play back the source.

4. Set the delay time for the rear speaker sound with respect to the front speaker sound using the DELAY TIME key.
< If you select "3" >


DELAY
DOLBY SURROUND
PRO · LOGIC
DELAY TIME 3
NORMAL
DELAY-3-

Each time you press the key, the delay time changes in the following order:

1 → 2 → 3 → 4 → 5

Setting advice:
Compare the distances between the front speakers and the listener and the rear speakers and the listener. The difference will help you to select the proper setting. Delay time varies from 1 to 5 with 3 as the average value.
If the position of the rear speakers, compared to the front speakers, is ......

very far → set 1
somewhat far → set 2
about the same → set 3
somewhat close → set 4
very close → set 5

After you have made an initial setting, make additional adjustments while listening to the source sound.

Note:
The DELAY TIME is stored in each mode until you make another change.

PRE. OUT

■ REAR
While this button is not pressed, REAR (SURROUND) channel signals are output from the PRE OUT terminals. Use this button to upgrade the REAR channel output or sound quality.

▬ FRONT
When this button is pressed, the FRONT (L, R) channel signals are output from the PRE OUT terminals. At the same time, the built-in FRONT channel amplifier (120 W) is switched to allow REAR channel signals to be output from the speaker terminals.
Use this button when you want to improve the output and sound quality from the FRONT channels, and increase the output sound from the rear speakers.

The function also allows you to enhance the performance of the stereo system when using regular 2-channel playback.

- This switch and terminals work the same way during DAP playbacks.
- Turn the power off, when switch the PRE. OUT selector.

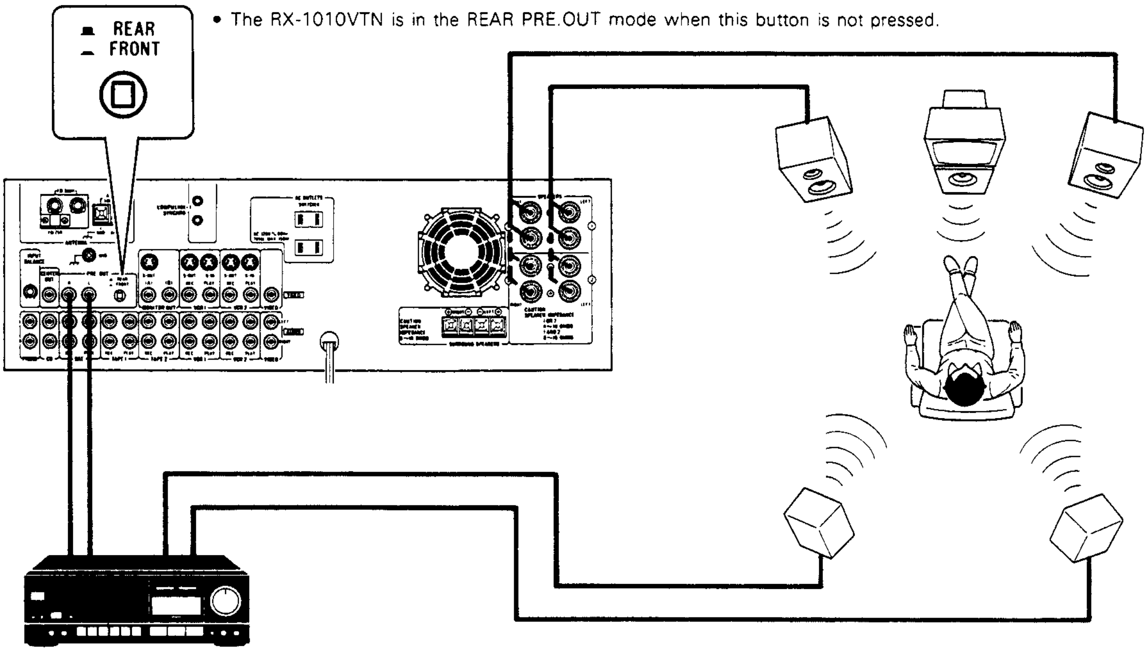
DOLBY SURROUND PRO LOGIC DD

- Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. Numbers 3,632,886, 3,746,792 and 3,959,590; Canadian Numbers 1,004,603 and 1,037,877.
"DOLBY" and double D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

■ PRE.OUT terminal connection

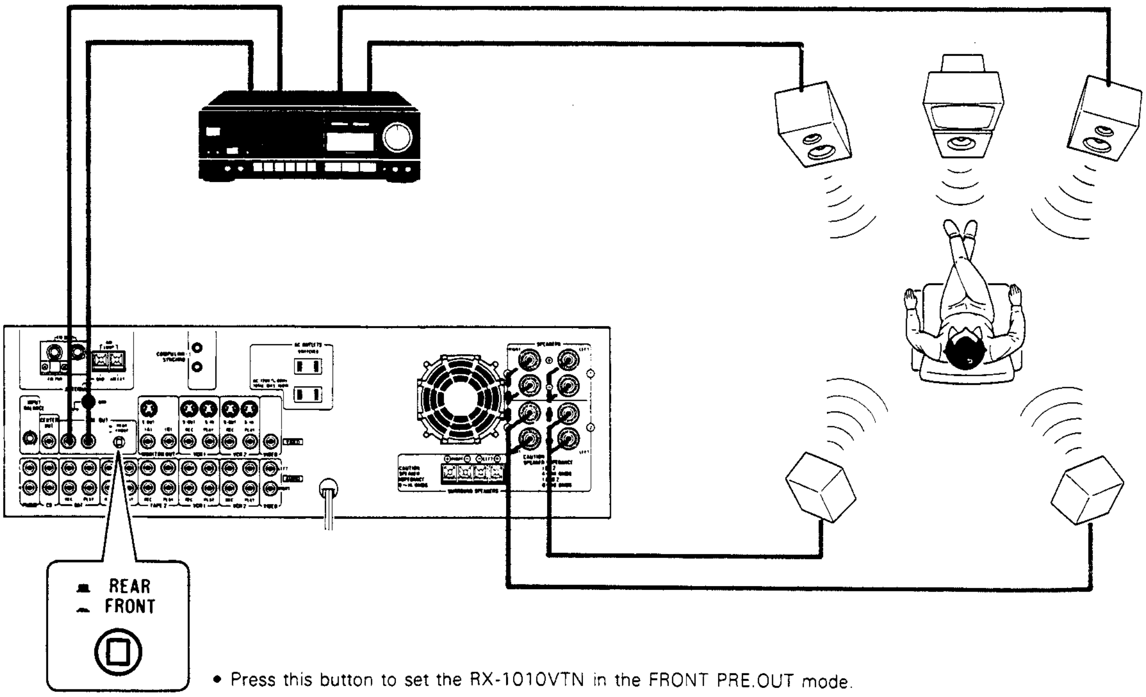
- Read well the instruction book for the amplifier to connect the PRE.OUT terminals to.
- For how to connect the CENTER speaker, see CONNECTION DIAGRAM on page 2.

< Using an external amplifier to reproduce signals on REAR channels >



- The RX-1010VTN is in the REAR PRE.OUT mode when this button is not pressed.

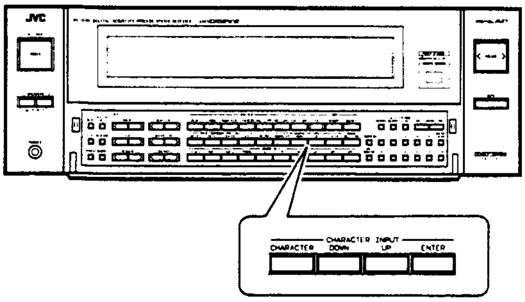
< Using an external amplifier to reproduce signals on FRONT channels >



- Press this button to set the RX-1010VTN in the FRONT PRE.OUT mode.

ENTERING CHARACTERS

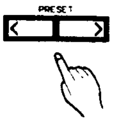
A five-character title or station name can be assigned to each S.E.A. preset pattern (SEA-A to E) or TUNER preset channel (CH-1 to 40).

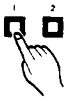

JVC
CHARACTER INPUT
CHARACTER
DOWN
UP
ENTER

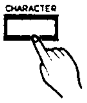
1. Specify a S.E.A. manual preset pattern (SEA-A through E using the keys PRESET <and>), or a TUNER preset channel (using the numeric keys). Press the CHARACTER key.

<To specify a S.E.A. pattern>
Use the S.E.A. PRESET keys, <and>.

<To specify a Tuner Preset Channel>
Use the numeric keys.





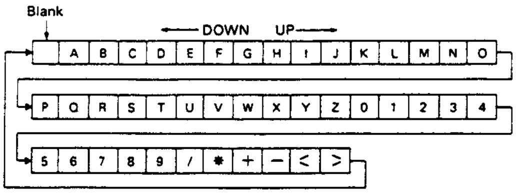


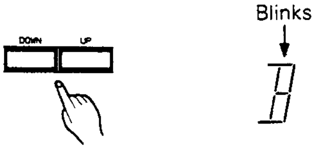
The cursor at the left blinks.
If a character has already been entered, the character blinks.

Note:
For details on S.E.A., see "Using the S.E.A. Graphic Equalizer". When a preset S.E.A. pattern has been called, press the CHARACTER key while the pattern is displayed (about 5 seconds). If the display is cleared before you press the CHARACTER key, press either PRESET key.

2. Select the appropriate characters with the UP and DOWN keys.

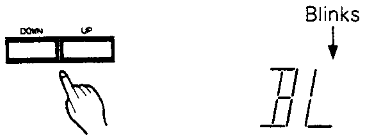
Alphanumeric character order.


Blank
DOWN
UP
A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z 0 1 2 3 4
5 6 7 8 9 / * + − < >


Blinks
DOWN
UP
B

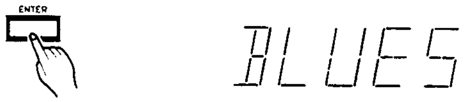
3. Press the CHARACTER key to move to the next position. Repeat steps 2 and 3 to enter up to 5 characters.

CHARACTER
Blinks
B


Blinks
DOWN
UP
BL

- To alter the characters, move the blinking cursor to the desired character for correction using the CHARACTER key.

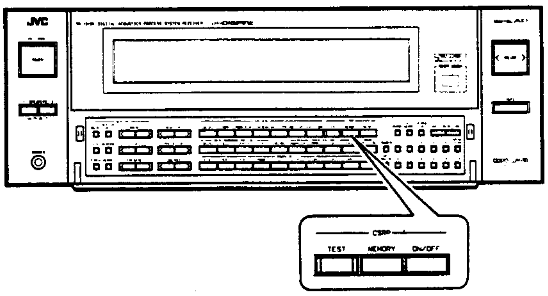
4. When the entry is complete, press the ENTER key to store it in memory.


ENTER
BLUES

RUNNING THE CSRP (COMPU LINK SOURCE RELATED PRESET SYSTEM) FEATURE

CSRP is the state-of-the-art electronic feature that presets volume, balance, and other control settings. This was previously done manually each time a different source was played back. This feature lets you invoke preset control settings by simply pressing a SOURCE key or calling up a TUNER preset channel without repeating many settings each time sources are changed.

Operation



— Presetting the CSRP data —

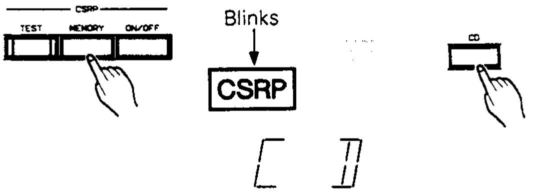
1. Before proceding, set the preset state.

The following controls can be preset on each SOURCE key (except TAPE 2) or TUNER preset channel:

- •VOLUME
- •BALANCE
- •LOUDNESS ON/OFF
- •SEA ON/OFF
- •S.E.A. preset pattern
- •PRO LOGIC ON/OFF
- •PRO LOGIC CENTER MODE
- •PRO LOGIC CENTER LEVEL
- •PRO LOGIC DELAY TIME
- •PRO LOGIC/DAP REAR LEVEL
- •DAP ON/OFF
- •DAP MODE
- •DAP LEVEL
- •DAP ROOM SIZE
- •DAP LIVENESS
- •DAP WALL TYPE

2. Press the MEMORY key to blink its indicator. Press either the SOURCE key you wish to preset (VIDEO, VCR 1, VCR 2, PHONO, CD, DAT or TAPE 1), or call up the TUNER preset channel (CH-1 through CH-40) using TUNER numeric keys while the indicator is blinking (about 5 seconds).

Repeat this operation for each additional source to be preset.



3. When the presetting is complete, the display will show preset data in the following order with the indicator blinking rapidly:
VOLUME, BALANCE, LOUDNESS ON → SEA (S.E.A. preset pattern) → PRO LOGIC (MODE, DELAY)
→ DAP (MODE, SIZE, LIVE, WALL)

- When both PRO LOGIC and DAP are on, the display changes to DAP by bypassing PRO LOGIC.
- The blinking indicator changes to a continuously lit state when the display is complete.

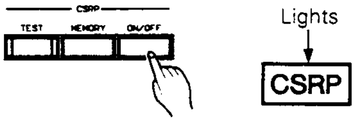
Notes:
- Sound and image output is suppressed while a CSRP test is in progress.
- All other operations are disabled while a CSRP test is in progress.

To exit from this mode, press the CSRP TEST key again.

Note:
Press the MEMORY key again if the indicator stops blinking before you press a SOURCE key or calling up a TUNER preset channel.
Sources can be preset regardless of whether the CSRP key is ON or OFF, but when a source is to be preset with the CSRP key OFF, do not turn it ON until the presetting is complete. If the CSRP key were turned ON before the presetting is complete, the current data settings would be recalled to override the presetting in progress.
Even with the SEA key ON, the SEA PRESET indicator will blink when the MEMORY key is pressed if an S.E.A. preset pattern has not been previously selected. In this case, select an S.E.A. preset pattern and retry this operation.

— Recalling the CSRP data —

1. When the CSRP key is ON, preset data is recalled each time a SOURCE key or TUNER preset channel is selected.



2. The display shows the data setting.
(refer to step 3 of "Presetting the CSRP data")

- Subsequently, a similar display occurs each time an additional source is selected.

Note:
Though data settings as recalled can be changed with control keys as usual, preset data cannot be altered. To alter preset data, perform the operation described in "Presetting the CSRP data."
The settings made with CSRP ON remain in effect even after CSRP turned OFF.

■ CSRP TEST

When the TEST key is pressed, all the CSRP data on all the SOURCE key (except TAPE 2) or TUNER preset channel are displayed in the following order.

→ VIDEO → VCR 1 → VCR 2 → PHOHO → CD
→ FM → AM → DAT → TAPE 1

For FM and AM, the last selected preset channel is recalled.

< On each SOURCE or TUNER preset channel >

VOLUME
BALANCE
LOUDNESS ON/OFF
↓
SEA ON/OFF
Preset pattern
↓
PRO LOGIC ON/OFF
↓
REAR LEVEL (PRO LOGIC)
↓
CENTER LEVEL
↓
DELAY TINE
↓
DAP MODE
↓
REAR LEVEL (DAP)
(PRO LOGIC off)
↓
DAP LEVEL
↓
ROOM SIZE
↓
LIVENESS
↓
WALLTYPE

COMPU LINK
Remote
Control System

COMPU LINK REMOTE CONTROL SYSTEM

JVC's exclusive "COMPU LINK" remote control system connects equipment with JVC COMPU LINK-1/SYNCHRO terminals to the remote control system. The equipment can be controlled from the remote control unit, or other functions (such as automatic source selection and synchronized recording) can be used.

■ Equipment remote control

JVC Compu Link equipment functions that can be controlled remotely include:

CD player	: PLAY, STOP, AUTO SEARCH, TRACK NO. SELECT
CD auto-changer	: PLAY MODE (CONTINUE, PROGRAM, MAGAZINE PROGRAM), DISC NO. SELECT, TRACK NO. SELECT
Cassette deck	: PLAY, STOP, MUSIC SCAN, DIRECTION, FAST FORWARD, REWIND, PAUSE, RECORD
DAT deck	: PLAY, STOP, AUTO SEARCH, TUNE NO. SELECT, FAST FORWARD, REWIND, PAUSE, RECORD
Turntable	: START, STOP

In addition, JVC's audio-visual equipment (such as VCRs and TVs) can also be controlled remotely. For further details, see the remote control unit description in this instructions.

■ Automatic source selection

Pressing SOURCE keys will automatically put the corresponding source equipment into the PLAY mode. When the PLAY key on source equipment is pressed, the corresponding SOURCE key is automatically set to that source. Other source equipment shuts down about 5 seconds later.

Note:

Automatic source selection does not work on the Tape deck connected to the TAPE 2 terminals.

■ Synchronized recording

Synchronized recording permits a tape deck to start recording automatically in synchronism with a CD player or turntable. Set the tape deck in the REC/PAUSE mode and press the PLAY key on the CD player or turntable. The tape deck will enter the recording mode automatically, starting synchronized recording.

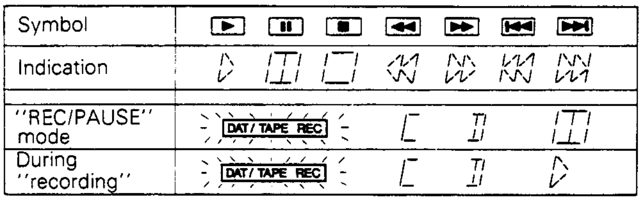
Synchronized recording stops automatically after the CD player or turntable has stopped and the tape deck has entered the REC/MUTE mode for about 4 seconds.

Notes:

- To set the REC/PAUSE mode, press the REC and the PAUSE key at the same time. Synchronized recording is disabled if the PAUSE key is pressed after the REC and the PLAY key are pressed simultaneously. For details, refer to the tape deck instructions.
- If the power for any connected equipment is shut off during synchronized recording, the system will not operate properly. In this case, you must start all over again.
- During synchronized recording the SOURCE key will lock in either the CD or PHONO position. This is to prevent you from accidentally stopping the recording or changing to any other source. To change to another source you must first stop synchronized recording.
- You cannot switch the CSRP ON and OFF during synchronized recording.
- Do not connect the remote cable when the cassette deck is connected to the VCR1, VCR2 and TAPE 2 terminals.
- If you program track numbers on a CD player or CD auto-changer and use synchronized recording, a blank space about 4 seconds long will be left between recordings. This permits music scanning.

Display examples

When using the remote control unit to operate equipment which has the COMPU LINK-1/SYNCHRO terminals, the name of the source and the operating mode will appear on the display.

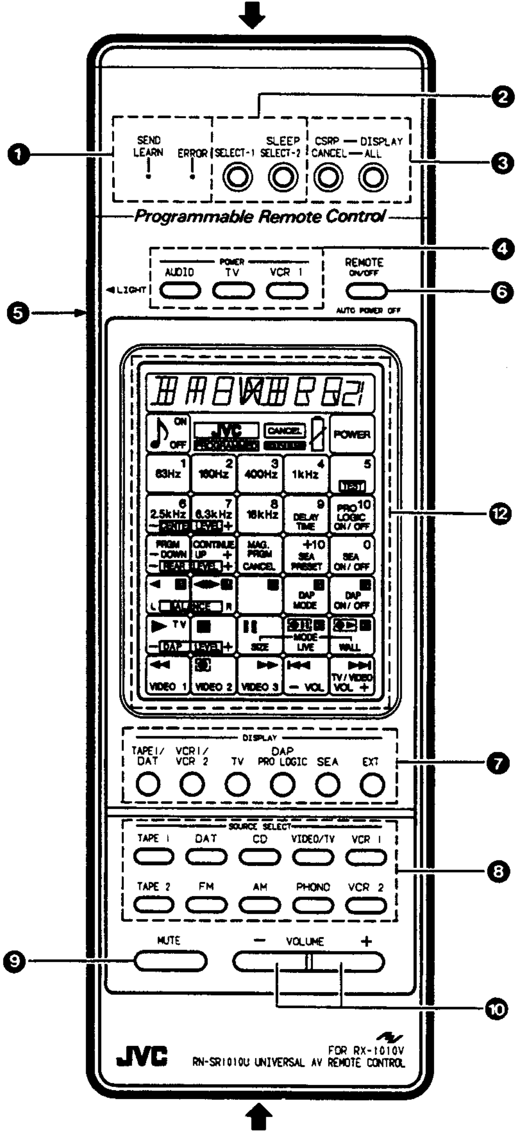


Symbol	▶	❚❚	■	◀◀	▶▶	⏮	⏭
Indication							
"REC/PAUSE" mode	DAT/TAPE REC						
During "recording"	DAT/TAPE REC						

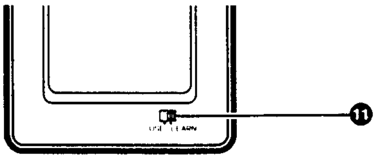
REMOTE CONTROL UNIT (RM-SR1010U)

The RM-SR1010U remote control units control the RX-1010VTN and JVC's audio visual gear from a remote place via the Compu Link Remote Control System.
Depending on the function in operation, the RM-SR1010U can also receive and use the signal of another remote control unit.

Signal transmission window


❶
❷
❸
❹
❺
❻
❼
❽
❾
❿
⓬
SEND
LEARN
ERROR
SELECT-1
SLEEP
SELECT-2
CSRP
CANCEL
DISPLAY
ALL
Programmable Remote Control
POWER
AUDIO
TV
VCR 1
REMOTE
ON/OFF
LIGHT
AUTO POWER OFF
ON
OFF
JVC
PROGRAMMED
CANCEL
POWER
63Hz
160Hz
400Hz
1kHz
TEST
2.5kHz
6.3kHz
16kHz
DELAY TIME
PRO LOGIC ON/OFF
CENTER LEVEL
FROM DOWN
CONTINUE UP
MAG. PRGM CANCEL
SEA PRESET
SEA ON/OFF
REAR LEVEL
BALANCE
DAP MODE
DAP ON/OFF
TV
SIZE
MODE
LIVE
WALL
DAP LEVEL
VIDEO 1
VIDEO 2
VIDEO 3
VOL
TV/VIDEO
DISPLAY
TAPE1/DAT
VCR1/VCR 2
TV
DAP PRO LOGIC
SEA
EXT
SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2
MUTE
VOLUME
JVC
FOR RX-1010V
RM-SR1010U UNIVERSAL AV REMOTE CONTROL

Signal receiving window



Rear of the RM-SR1010U

■ NAMES OF PARTS AND THEIR FUNCTIONS

The RM-SR1010U Remote control Unit functions in the following two modes:
***USE mode** : This is normal operation mode for controlling components.
***LEARN mode**: In this mode, the signals from other remote control units can be stored in the memory of the RM-SR1010U and cancelled.

❶ **SENDLEARN indicator**

USE mode: Act as the SEND indicator and lights up while signals are being transmitted.
LEARN mode: Act as the LEARN indicator and indicates the LEARN operation status.

ERROR indicator

USE mode: This indicator will not light.
LEARN mode: Act as the error indicator and indicates an operation error. During programming it lights together with the SEND/LEARN indicator.

❷ **SELECT-1**

USE mode: Use to select the CD changer mode source display screen pattern.
LEARN mode: Use to select the programmed mode source display screen pattern. (VCR 1, VCR 2, TV, CD, DAT)

SLEEP/SELECT-2

USE mode: Use to set the sleep timer.
LEARN mode: Use to store the functions of other remote control into the buttons of the RM-SR1010U in addition to LCD panel keys.

❸ **CSRP/CANCEL**

USE mode: Use to turn CSRP ON or OFF.
LEARN mode: Use to clear (cancel) the functions which have been stored previously.

DISPLAY/ALL

USE mode: Use to display the CSRP data on the display of RX-1010VTN.
LEARN mode: Use to cancel all the functions stored for one screen.

❹ **POWER**

AUDIO: Press to change the power for the RX-1010VTN to ON or STANDBY.
TV: Press to turn on or off the power to JVC's TV receiver.
VCR1: Press to turn on or off the power to JVC's VCR.

❺ **LIGHT**

While this button is pressed, the LCD panel will be illuminated.

❻ **REMOTE ON/OFF**

Press to turn the remote control unit ON or OFF.
When no further entry is made one hour after the last operation. The remote control unit will be automatically turned OFF.

❼ **DISPLAY**

Press to change the LCD panel display to the corresponding mode. Pressing these buttons does not change the source selected for input to the RX-1010VTN.

❽ **SOURCE SELECT**

Press to change the source selected for input to the RX-1010VTN.

❾ **MUTE**

Press to mute the output sound level.

❿ **VOLUME (–, +)**

Press to adjust the output sound level.

⓫ **USE/LEARN select switch**

Use to select the operation mode USE or LEARN.

⑫ LCD panel

Mode display

Display the names of components which can be controled.

JVC : This indication appears when the keys displayed on the LCD panel corresponds to a JVC A/V components.

PROGRAMMED

USE mode : Appears when the key functions of another remote control unit have been stored into keys displayed on the LCD panel.

LEARN mode : Appears when the RM-SR1010U is ready to store signals.

Battery indicator (▯)

Appears when the batteries are nearly exausted.
Replace the batteries in the RM-SR1010U with the new one.

OVER : Appears when the memory is full, and no more signals can be stored.

CANCEL : Indicate the cancel (clear) operation status.

♪ ON OFF : Press this key to turn the buzzer ON or OFF. Even when this key is set to OFF, the buzzer will sound when a stored key function is cancelled, or when the USE/LEARN switch is changed over.

Operation keys

Operation keys which can be used in the mode currently selected are shown on the LCD display.

■ Batteries

The RM-SR1010U remote control units require six batteries SIZE AAA/AM-4/LR03 (1.5V).

Battery replacement

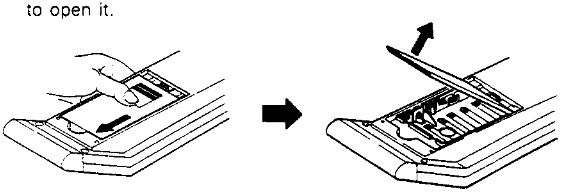
- With the batteries are nearly exhausted the " ▯ " (battery mark) appears on the LCD panel. When you see this, replace all the batteries with the new ones as soon as possible.
- When replacing the batteries, be sure to set the USE/LEARN switch located on the rear panel of the RM-SR1010U, to the USE position.
- With the RM-SR1010U, do not allow more than 3 minutes for battery replacement to preserve stored data.

Cautions on batteries

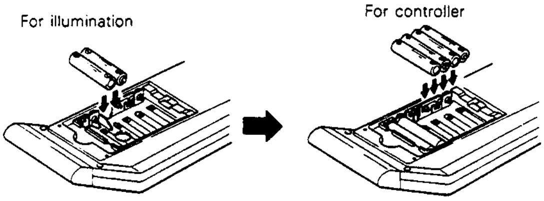
- Use long-life "AAA" (1.5V) batteries.
- Observe the polarity of batteries when loading them.
- Do not mix new and old batteries.
- Be sure to use batteries of the same brand. Batteries may vary in voltage even though they look alike.
- If the remote control unit will not be used for a long time, remove the batteries.
- Do not heat batteries or attempt to dispose of them by burning.

How to install batteries

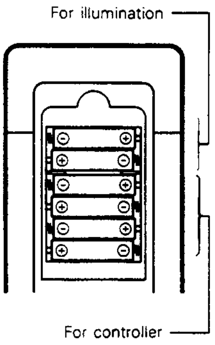
1 Slide and lift the cover of the battery compartment on the rear of the RM-SR1010U to open it.



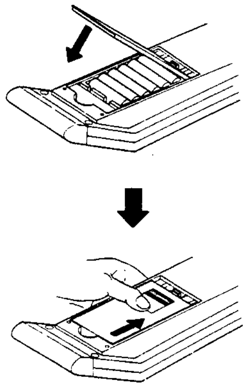
2 Insert six "AAA" batteries.



3 Confirm that all batteries are installed with the correct polarlty.



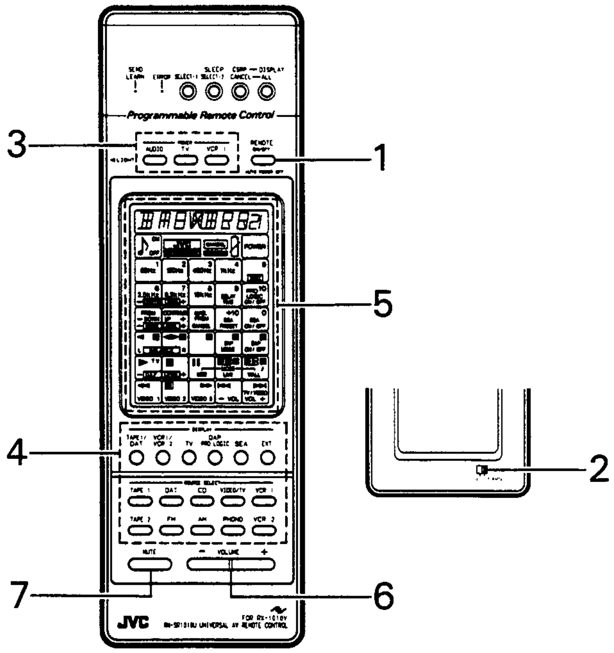
4 Re-install the cover of the battery compartment.



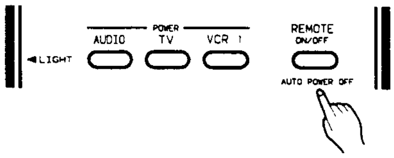
OPERATION WITH THE REMOTE CONTROL UNIT (RM-SR1010U)

- Check for connection of the COMPU LINK-1/SYNCHRO terminals on the remote equipment by a remote cable.
- Switch on the power to all the equipment required before starting operation. The POWER key on the RM-SR1010U can switch on the power to the AUDIO (RX-1010VTN). TV. VCR.
- Direct the transmitter window of the remote control unit at target equipment within a distance of 7 meters. Take care to avoid obstacles between the transmitter and the target. Press keys slowly and positively, making sure the desired functions result.
- The operation of each key on the remote control unit is crearly displayed on the RX-1010VTN. For specific procedures, refer to the instructions for the particular equipment.
- Since the RM-SR1010U has an auto power-OFF function, when any key or button on the RM-SR1010U is not operated for a period of about one hour, the LCD panel display will be automatically turned OFF. However, it is recommended that you press the REMOTE ON/OFF button to OFF after operations are finished, to prevent the batteries from becoming exhausted prematurely.

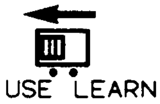
■ Basic Operation



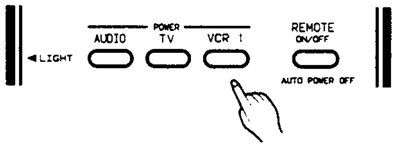
1. Turn the RM-SR1010U to ON using the REMOTE ON/OFF key.


POWER
AUDIO
TV
VCR 1
REMOTE ON/OFF
◄LIGHT
AUTO POWER OFF

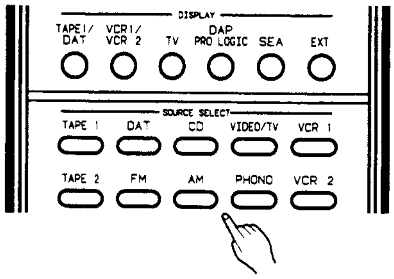
2. Set the USE/LEARN switch on the rear panel of the RM-SR1010U to the USE position.



3. Using the POWER buttons on the RM-SR1010U to turn the power to each component ON.

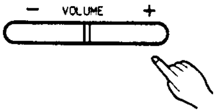

POWER
AUDIO
TV
VCR 1
REMOTE ON/OFF
◄LIGHT
AUTO POWER OFF

4. Select the screen of the source component to be operated with the SOURCE SELECT buttons or DISPLAY buttons.

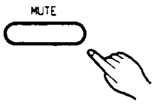

DISPLAY
TAPE1/ DAT
VCR1/ VCR 2
TV
DAP PRO LOGIC
SEA
EXT
SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2

When the required screen has been selected with one of the DISPLAY buttons, the source input to the RX-1010VTN will not changed.

5. Using the keys on the LCD panel or buttons on the RM-SR1010U operate the component as desired.
6. Adjust the VOLUME keys your taste.

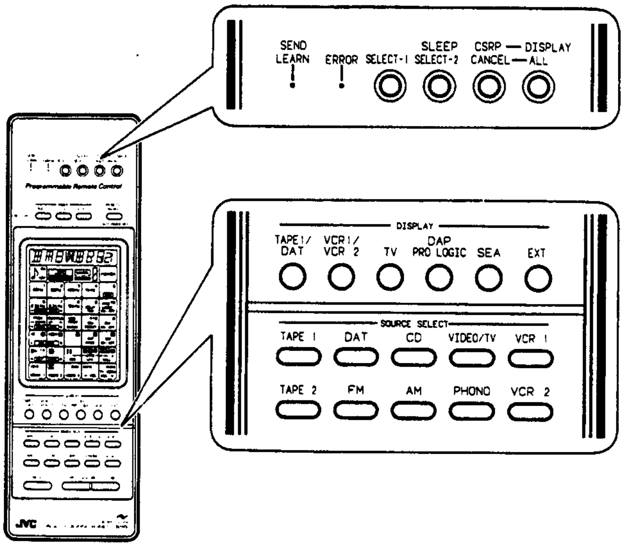


7. Press the MUTE key as needed.



- Press again to OFF or operate the VOLUME key, to turn ON the sound again.

Using the Standard Mode Screens

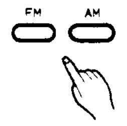

SEND LEARN
ERROR
SLEEP SELECT-1
SELECT-2
CSRP — DISPLAY
CANCEL — ALL
DISPLAY
TAPE1/ DAT
VCR1/ VCR 2
TV
DAP PRO LOGIC
SEA
EXT
SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2
JVC

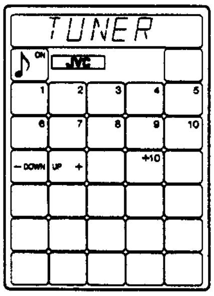
The screen patterns with the JVC indication are provided exclusively for the operation of JVC A/V components.
As the remote control operation signals for JVC components have been stored into these keys, the key functions on these screens can be used without performing programming.
To store other functions in addition to the previously stored key functions, refer ro "How to performing programming" on page 29.

- Some key indications may not correspond to the name on the components. Check any differences between them carefully before use.
- For details of operations, refer to the instruction book of each compoenent.

Listening to FM/AM Broadcasts

When the FM or AM button is pressed, this screen Pattern appears.



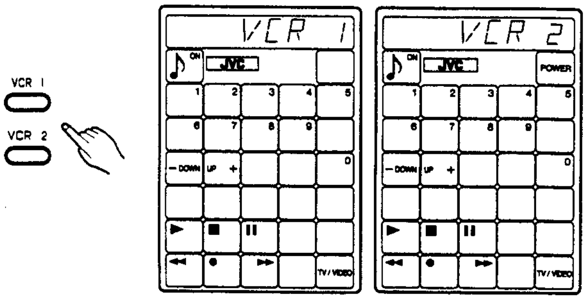

TUNER
ON
JVC
1
2
3
4
5
6
7
8
9
10
–DOWN
UP +
+10

1 – 10, + 10 : Selects the preset channel.
– DOWN : Scans to lower preset channels.
UP + : Scans to higher preset channels.

You cannot tune in stations other than presets.
For reference, see page 10.

Using a VCR (1 or 2)

- When the VCR 1 or VCR 2 button is pressed, these screens pattern appear.

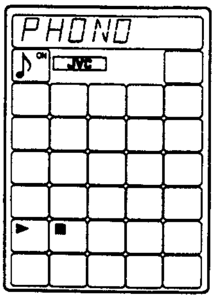

VCR 1
VCR 2
VCR 1
VCR 2
ON
JVC
POWER
1
2
3
4
5
6
7
8
9
0
–DOWN
UP +
TV/VIDEO

1 – 9, 0 : Select the VCR channel directly.
–DOWN : Scans to lower VCR channels.
UP+ : Scans to higher VCR channels.
TV/VIDEO : Switches the RF signal path to the TV or VIDEO position.
▶ : Starts play back a video tape.
■ : Stops VCR operation.
❚❚ : Stops recording/playback temporarily and enters the pause/still mode. To release it press "▶"
◀◀ : Rewinds video tape.
▶▶ : Fast-forwards video tape.
● : Press together with "▶" to starts recording. Press together with "❚❚" to enter the record-standby mode.
POWER : Turns the power the VCR ON/OFF. (VCR2 only)

- The source input to the RX-1010VTN does not change when the VCR1 or VCR2 screen pattern has been selected with the VCR1/VCR2 (DISPLAY) button.
- Use the VCR1/VCR2 (DISPLAY) button when you do not want input sources to be changed, as when VCR1 (2) held standby while viewing VCR2 (1).
- The screen pattern toggles between VCR1 and VCR2 each time the VCR1/VCR2 (DISPLAY) button is pressed.
- Some JVC VCRs provide two types of remote control signals (A/B mode selectable). With these VCRs, "A" mode corresponds to the VCR1 screen, and "B" mode corresponds to the VCR2 screen on the RM-SR1010U. For details, refer to the Instruction Book of the VCR.

Listening to Records

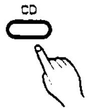
When the PHONO button is pressed, this screen pattern appears.

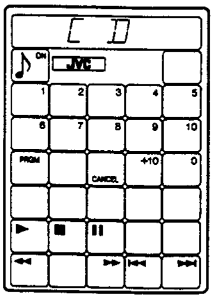

PHONO
ON
JVC

▶ : Starts play.
■ : Stops play.

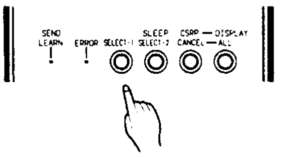
Listening to CDs (CD Player or CD changer)

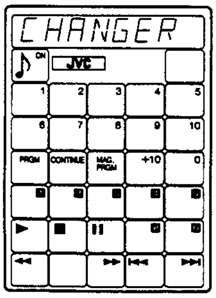
When CD button is pressed, this screen pattern appears.




C D
ON
JVC
1
2
3
4
5
6
7
8
9
10
PROG
CANCEL
+10
0

To operate the CD changer, first press the CD button to call the CD screen, then press the SELECT1 button to switch to the CHANGER screen.
Press the SELECT1 button again to return to the CD screen.

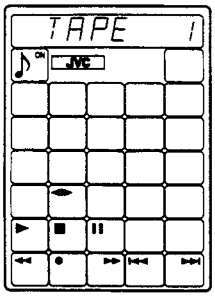




CANCEL : Releases programming. (for a CD only)
1 — 10, +10, 0 : Selects the track number.
PRGM : Used to enter the program mode. (for a CD only)
▶ : Starts play.
■ : Stops operation.
❚❚ : Stops play temporarily. To release press "▶".
◀◀ : Moves backward quickly during play.
▶▶ : Moves forward quickly during play.
⏮ : Skips to the beginning of the previous track.
⏭ : Skips to the beginning of the next track.
(The follwing keys are for a CD CHANGER only)
1 - 6, P : Selects the disc number.
CONTINUE : Used for contenious play.
MAG.PRGM : Used for magazine program play.
PRGM : Used for program play.

Using a Cassette Deck

When TAPE1 button is pressed, this screen pattern appears.

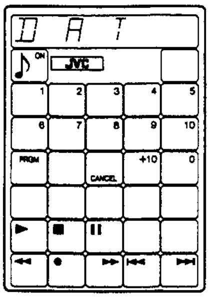


◀❚▶ : Changes the tape running direction.
▶ : Starts playback.
■ : Stops operation.
❚❚ : Stops recording/playback play temporarily. To release press "▶".
◀◀ : Fast-winds the tape from right to left.
▶▶ : Fast-winds the tape from left to right.
⏮ : Skips to the beginning of the previous tune.
⏭ : Skips to the beginning of the next tune.
● : Press together with "▶" to start recording. Press together with "❚❚" to enter record-pause mode.

When the TAPE2 is pressed, the source input to the RX-1010VTN is swiched to TAPE2, but the screen pattern for the remote controller does not change. Operate TAPE2 directly from the equipment connected to the TAPE2 terminals.

Listening to DAT

When DAT button is pressed, this screen pattern appears.

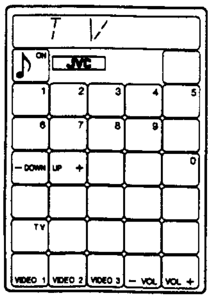


CANCEL : Releases programming.
1 — 10, +10, 0 : Selects the tune number.
PRGM : Used to enter the program playback mode.
▶ : Starts playback.
■ : Stops operation.
❚❚ : Stops recording/playback temporarily. To release press "▶".
◀◀ : Rewinds the tape.
▶▶ : Fast-forwards the tape.
⏮ : Skips to the beginning of the previous tune.
⏭ : Skips to the beginning of the next tune.
● : Press together with "▶" to start recording. Press together with "❚❚" to enter record-pause mode.

Though either the TAPE1 or DAT screen pattern can be directly called using the TAPE1/DAT button, the source input to the RX-1010VTN does not change. Use the TAPE1/DAT button when you do not want input sources to be changed, as when TAPE2 is being played back, TAPE1 is being rewound, either tape is held standby and so on.
The screen pattern toggles between TAPE1 and DAT each time the TAPE1/DAT button is pressed.

Watching a TV

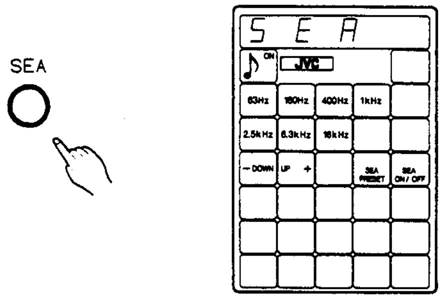
When VIDEO/TV button is pressed, this screen pattern appears.



1 — 9, 0 : Selects the TV channel.
— DOWN : Scans to lower TV channels.
UP+ : Scans to higher TV channels.
TV : Selects the TV and VIDEO mode.
VIDEO 1 — 3 : Selects the video input of video components connected to the TV.
— VOL : Decrease the sound volume of the TV receiver.
VOL+ : Increase the sound volume of the TV receiver.

Using the S.E.A. graphic equalizer

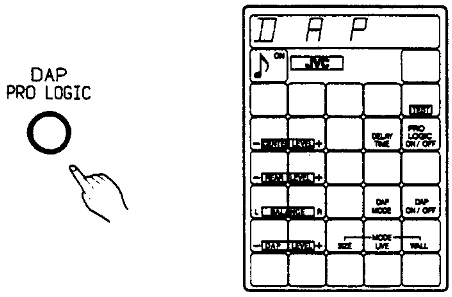
When SEA button is pressed, this screen pattern appears.


SEA
S E A
ON
JVC
63Hz
160Hz
400Hz
1kHz
2.5kHz
6.3kHz
16kHz
-DOWN
UP +
SEA PRESET
SEA ON/OFF

63 Hz−16kHz: Select the frequency band required to be compensated.
-DOWN, UP+: Adjust the amount of compensation of the selected frequency band.
SEA PRESET: Select the desired S.E.A. preset equalization pattern.
SEA ON/OFF: Turn the S.E.A. feature ON or OFF for reference, see page 12.

Using the Dolby Surround Pro Logic or DAP sound effect.

When DAP, PRO LOGIC button is pressed, this screen pattern appears.

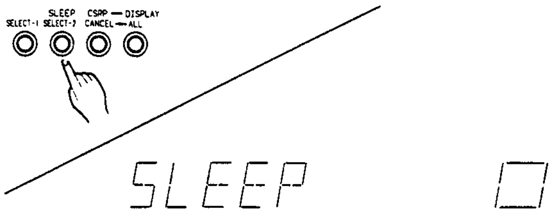

DAP
PRO LOGIC
D A P
ON
JVC
TEST
- CENTER LEVEL +
DELAY TIME
PRO LOGIC ON/OFF
- REAR LEVEL +
L BALANCE R
DAP MODE
DAP ON/OFF
- DAP LEVEL +
MODE
SIZE
LIVE
WALL

PRO LOGIC ON/OFF: Turns the Dolby Pro Logic surround sound effect ON/OFF.
DELAY TIME : Sets the delay time of the rear channels.
TEST : Turns the test tone ON/OFF.
- CENTER LEVEL + : Sets the output level of the center speakers.
- REAR LEVEL + : Sets the output level of the rear speakers.
L BALANCE R : Adjust the volume balance between left and right speaker.
DAP ON/OFF : Turn the DAP ON or OFF.
DAP MODE : Selects the DAP mode.
SIZE : Sets the desired sound-field size.
LIVE : Adjust the depth of resonance.
WALL : Adjust the walls materials of simulated room.
- DAP LEVEL + : Adjust the DAP effect to be mixed with the normal stereo sound.

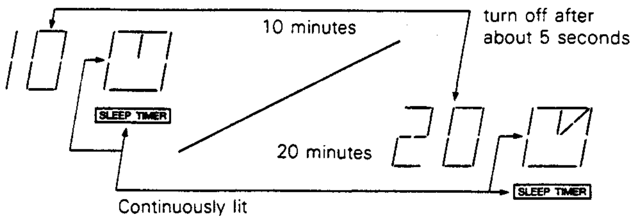
Using the Sleep Timer

The sleep timer shuts off the RX-1010VTN (to enter the STANDBY mode) when the preset time intervals have elapsed.

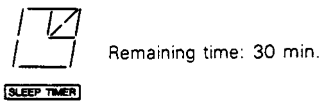
1. Press the SLEEP TIMER (SLEEP) button to set the timer setting mode.


SLEEP CSRP — DISPLAY
SELECT-1 SELECT-2 CANCEL—ALL
SLEEP 0

2. Each time the SLEEP TIMER (SLEEP) button pressed subsequently, the timer can be set up to 80 minutes, in 10-minute multiples.

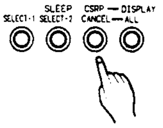

10
10 minutes
turn off after about 5 seconds
SLEEP TIMER
20 minutes
20
Continuously lit
SLEEP TIMER

3. The remaining reset time is shown in the RX-1010VTN display.

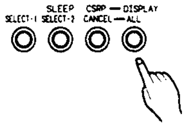

Remaining time: 30 min.
SLEEP TIMER

Using CSRP feature

- Press CSRP, Button to turn CSRP ON or OFF.


SLEEP CSRP — DISPLAY
SELECT-1 SELECT-2 CANCEL—ALL

- Press DISPLAY button to recall CSRP data stored on a source being played.


SLEEP CSRP — DISPLAY
SELECT-1 SELECT-2 CANCEL—ALL

For details, refer to "RUNNING THE CSRP FEATURE" on page 20.

Using the PROGRAMED Mode Screens

In the LEARN mode, this remote control unit (RM-SR1010U) can be programmed to memorize functions of other remote control unit.
It allows you to control the existing audio, video, and other remote controllable equipment directly from the RM-SR1010U.

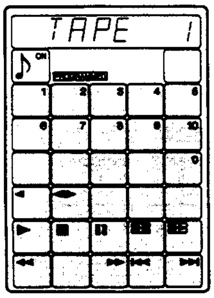
- Besides LCD panel keys it's possible to program on TV (POWER), VCR1 (POWER and Source), VIDEO/TV, VCR2 buttons.

Learned functions can be stored on the PROGRAMMED mode screen patterns shown below. Use to check whether or not the key function is different from the key indication on the screen and for any notes.

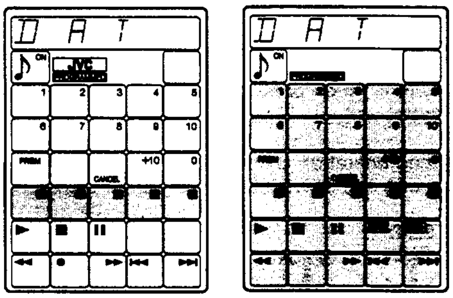
- Only one screen at each source can be programmed.

Use the SELECT-1 button to change screen patterns from each separate source.

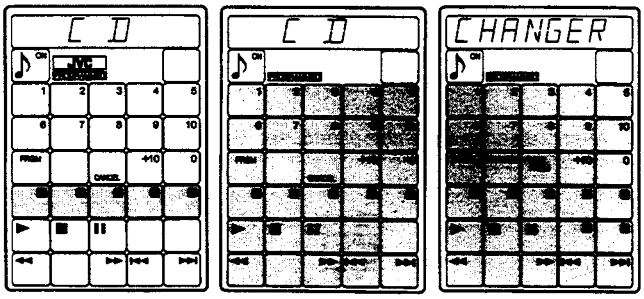
for **TAPE 1**



for **DAT**

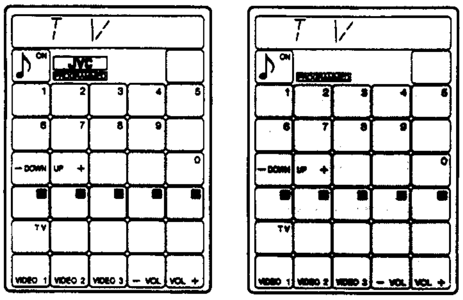

DAT
DAT
JVC
CANCEL
+10

for **CD**

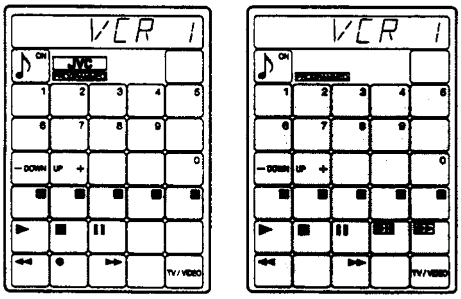

CD
CD
CHANGER
JVC
CANCEL
+10

- You cannot select the CHANGER screen in the LEARN mode unless you have selected it in the USE mode.

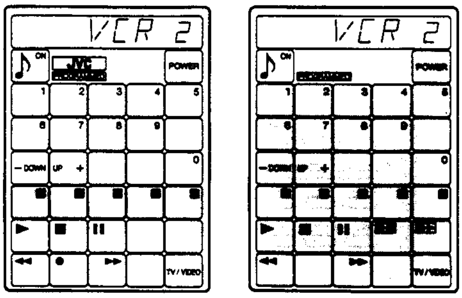
for **VIDEO/TV**


TV
TV
JVC
DOWN
UP
TV
VIDEO 1
VIDEO 2
VIDEO 3
– VOL
VOL +

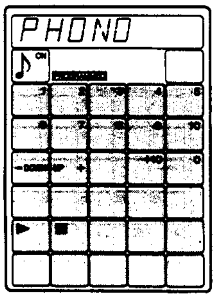
for **VCR 1**


VCR 1
VCR 1
JVC
DOWN
UP
TV/VIDEO

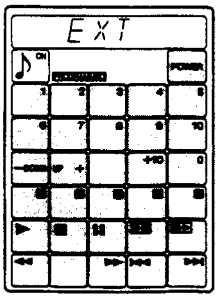
for **VCR 2**


VCR 2
VCR 2
JVC
POWER
DOWN
UP
TV/VIDEO

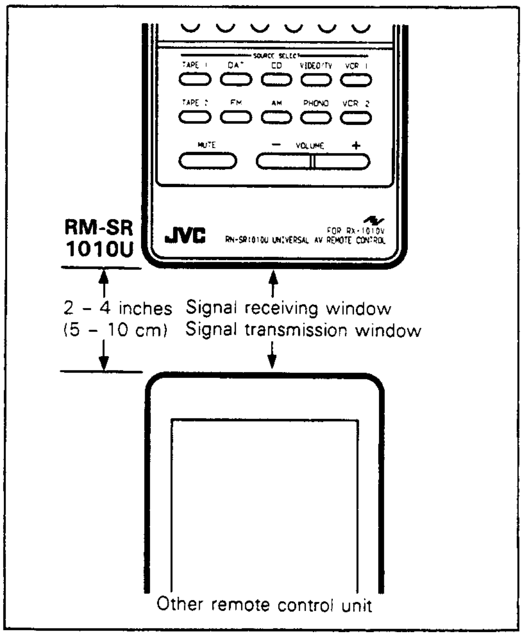
for **PHONO**



for **EXT**

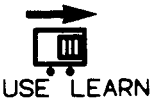

EXT
POWER
DOWN
UP
+10

■ How to perform programming (learning)

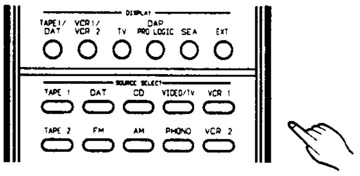

SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2
MUTE
– VOLUME +
RM-SR
1010U
JVC
RM-SR1010U UNIVERSAL AV REMOTE CONTROL
FOR RX-1010V
2 - 4 inches
(5 - 10 cm)
Signal receiving window
Signal transmission window
Other remote control unit

– Programming into the Keys on the LCD Panel –

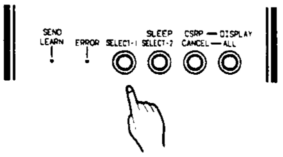
1. Set the USE/LEARN switch on the rear panel of the RM-SR1010U to the LEARN position.



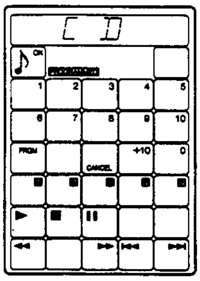
2. Select the source required to be memorized with any of the SOURCE SELECT buttons or DISPLAY buttons.


DISPLAY
TAPE1/DAT
VCR1/VCR2
TV
DAP PRO LOGIC
SEA
EXT
SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2

3. Select the required screen to be memorized wit the SELECT-1 button.


SEND LEARN
ERROR
SELECT-1
SLEEP SELECT-2
CSRP — DISPLAY CANCEL — ALL

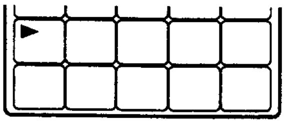
The screen is changed according to the source selected, and the keys which have not been programmed will blink.


CD
OK
PROGRAM
1
2
3
4
5
6
7
8
9
10
FROM
+10
0
CANCEL

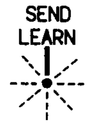
When only one screen is available for the LEARN mode depending on the source selected, the screen will not be changed. When programming has already been done for the source selected, the screen will not be changed unless all memorized data is cancelled. (See, "How to cancel programmed signals")

4. Place both remote control units, as Fig. 00 showing, on a flat surface.

5. Select the key to be memorized among the ones that are blinking, and press it once then release it.



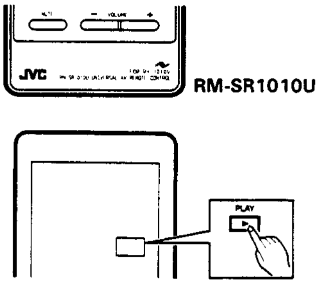
Only the key pressed remains, with all other keys being erased.



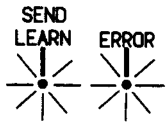
Start blinking

When a key in which programming is impossible or which has already been programmed is pressed, the ERROR indicator will light. In such a case, press a key in which programming is possible. When the key is pressed by mistake, wait for about 7 seconds and the keys will start blinking again, when retry from the beginning.
When the SEND/LEARN indicator stops blinking before you proceed to the next step, perform the above operation again.

6. While the SEND/LEARN indicator is blinking (within about 7 seconds), press the key (button) of another remote control unit to be memorized and keep it pressed.


JVC
RM-SR1010U
PLAY

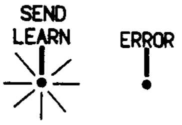
Other remote control unit


SEND
LEARN
ERROR

light continuously
(during programming)

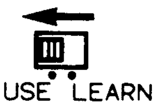
- While indicators are lit, keep pressing the key (button) of the other remote control unit.

7. When the memorizing operation is completed, the ERROR indicator goes out and only the SEND/LEARN indicator remains lit.


SEND
LEARN
ERROR

If only the ERROR indicator lights, the memorizing operation has not been performed correctly.
Repeat the programming procedures again.

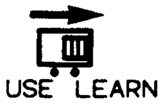
8. After programming is completed, set the USE/LEARN switch to the USE position.



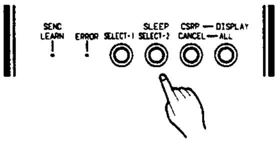
– Programming into Buttons on the RM-SR1010U –

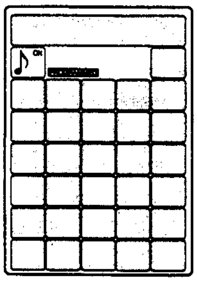
Other than the keys appearing on the LCD panel, the POWER (TV, VCR 1), SOURCE SELECT (VCR 1, VCR 2, VIDEO/TV) buttons on the RM-SR1010U can also memorize signals from other remote control units. To program these, perform the following:

1. Set the USE/LEARN switch on the rear panel of the RM-SR1010U to the LEARN position.



2. Press the SELECT 2 button.





The component modes and key indications, etc. on the LCD display go out.

- When this button is pressed again, it is possible to program the keys in the LCD panel. See page 29.

3. Select the button which you want to program. Press it, then release it.

When a button which cannot be programmed or which has already been programmed is pressed, the ERROR indicator lights. In this case, select another programmable button.
If a button is pressed by mistake, or the SEND/LEARN indicator stops blinking before you proceed to the next step, perform this operation again.

4. Subsequent procedures are the same as in —Programming into the keys on the LCD panel —. See page 29.

- The SOURCE SELECT (VCR1, VCR2, VIDEO/TV) buttons can select sources for the RX-1010VTN even aftr programming. For example, if the VCR1 (SOURCE SELECT) button is pressed by setting the RM-SR1010U in the USE mode after the VCR play function for another remote controller has been programmed in that button, the source input to the RX-1010VTN will change to VCR1, then VCR1 will start playing.

IMPORTANT

- The RM-SR1010U can memorize remote control signals from most infrared remote control units of other makes. However, if the other remote control uses specially coded signals or signals with codes with a longer period, programming may be impossible. In this cases, even if the programming procedures are performed several times repeatedly, it will be impossible to store the codes in memory.
- Some remote control transmit a number of instructions simultaneously (when programming the timer of a TV/VCR, for example); in such a case, the RM-SR1010U may not operate correctly.
- Even when the programming operation has been performed without any problem, the key may not operate or subsequent operation may not be possible. This is because some components may not accept remote control signals which are slightly different from the original ones.
  If this happens, cancel the previously stored signals then perform the programming operation again. (To cancel the stored signal, refer to "How to cancel programmed signals" on page 00.)
- Some programmable screens have a " ●II " or " ●▶ " key indication. The functions of other remote control units can be programmed into each key in the normal way. However, in the USE mode, the LCD panel will show that the " ● " key should be used together with the " ●II " key or " ●▶ " key so that two-step functions such as REC/PAUSE (record standby) or REC/PLAY (recording start) can be performed, to prevent misoperation.
- To operation of the REC, REC/PLAY or REC/PAUSE keys (buttons) related to recording are different for each remote control unit. Use the keys on the RM-SR1010U taking this into consideration.
- To program the functions of another remote control requiring two keys are pressed in sequence, the function may differ with the order in which the keys are pressed.
  In this case, confirm the order in which they should be pressed before starting programming.

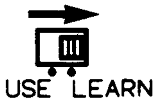
When storing a new function into a key (buttons) in which programming has been done, first cancel the previously stored data, and then perform the programming procedure again. See page 31. "How to cancel programmed signals"

■ How to cancel programmed signals

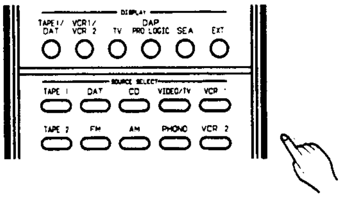
There are two methods to cancel key functions which have already been stored, cancelling a single key function (**DELETE**), and cancelling all the key functions for one screen (**CLEAR**).

– Cancelling the functions stored in the keys on the LCD panel –

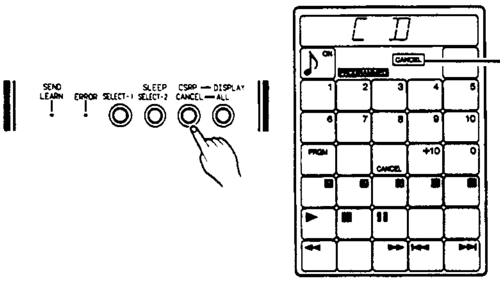
1. Set the USE/LEARN switch on the rear panel of the RM-SR1010U to the LEARN position.



2. Select the source a key function of which is to be cancelled using the SOURCE SELECT buttons or DISPLAY buttons.


DISPLAY
TAPE1/DAT
VCR1/VCR 2
TV
DAP PRO LOGIC
SEA
EXT
SOURCE SELECT
TAPE 1
DAT
CD
VIDEO/TV
VCR 1
TAPE 2
FM
AM
PHONO
VCR 2

3. Press the CSRP/CANCEL button, then release it.


SEND LEARN
ERROR
SELECT-1
SLEEP SELECT-2
CSRP — CANCEL
DISPLAY — ALL
CD
CANCEL
PROGRAM

Appears

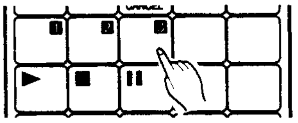
not programmed keys go out

This button does not function if no key have been programmed for the screen. (When this button is pressed again, the RM-SR1010U enters the programming mode.)

4.

To DELETE

While the CANCEL indicator is shown (for about 7 seconds), press the key to be deleted.

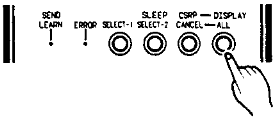


i) Hold the key depressed until the buzzer sounds once. (Deleting operation starts)
ii) The key to be deleted goes out with next buzzer.
iii) CANCEL indicator goes out. (Deleting operation is completed)

- The RM-SR1010U enters the programming mode.

To CLEAR

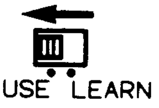
While the CANCEL indicator is shown (for about 7 seconds), press the DISPLAY/ALL button.


SEND LEARN
ERROR
SELECT-1
SLEEP SELECT-2
CSRP — CANCEL
DISPLAY — ALL

i) Hold the key depressed until the buzzer sounds once. (Clearing operation starts)
ii) Programmed keys go out ringing buzzers one by one.
iii) When all the keys went out, the buzzer sound three times.
iv) CANCEL indicator goes out. (CLearing operation is completed)

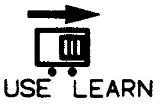
- The RM-SR1010U enters the programming mode.

5. After cancelling is complete, set the USE/LEARN switch to the USE position.

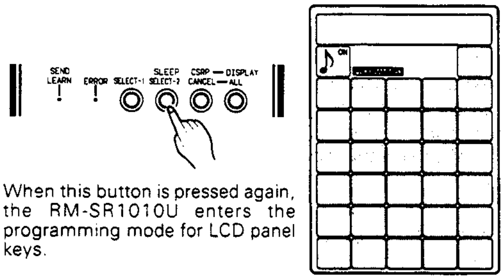


– Cancelling the functions stored in the buttons on the RM-SR1010U –

1. Set the USE/LEARN switch on the rear panel of the RM-SR1010U to the LEARN position.



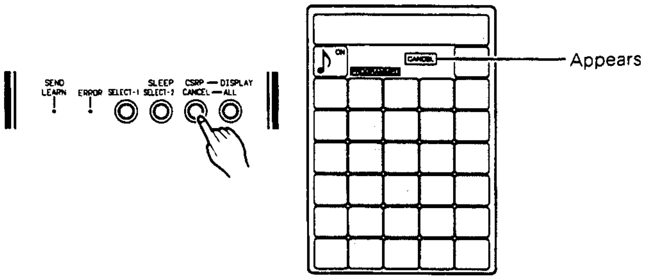
2. Press the SELECT 2 button.


SEND LEARN
ERROR
SELECT-1
SLEEP SELECT-2
CSRP — CANCEL
DISPLAY — ALL

When this button is pressed again, the RM-SR1010U enters the programming mode for LCD panel keys.

The component modes and key indications, etc. on the LCD display go out.

3. Press the CSRP/CANCEL button, then release it.

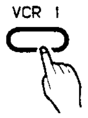

SEND LEARN
ERROR
SELECT-1
SLEEP SELECT-2
CSRP — CANCEL
DISPLAY — ALL
CANCEL

Appears

4.

To DELETE

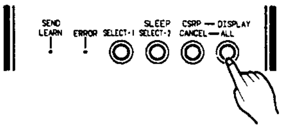
While the CANCEL indicator is shown (for about 7 seconds), press the button to be deleted.



Hold the button depressed until the buzzer sounds once. (Deleting operation starts)
When deleting is completed, CANCEL indicator go out.

To CLEAR

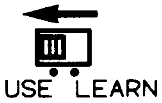
While the CANCEL indicator is shown (for about 7 seconds), press the DISPLAY/ALL button.



Hold the button depressed until the buzzer sounds once.
When clearing is completed, the buzzer sounds three times and CANCEL indicator go out.

- The RM-SR1010U enters programming mode.

5. After cancelling is completed, set the USE/LEARN switch to the USE mode.



- To prevent mistakes when cancelling functions, check the screen and keys or buttons carefully.
  Especially, since the all-keys or all-buttons clearing operation cannot be stopped once it has started, be especially careful.
- After the signals with which the buttons of the RM-SR1010U have been programmed are cancelled, the buttons will return to their original functions.

Notes:

- NEVER REMOVE THE BATTERIES while a canceling operation is in progress (with the CANCEL indicator on).
  If normal operation is not possible even when, having removed the batteries by mistake, they have been reinstalled, remove the batteries and leave the RM-SR1010U for about 12 hours. In this case, normal operation will be restored but all the stored data will be cancelled and you will have to perform programming operations again.
- The canceling operation starts when buzzer sounds once. However, when specially coded signals or many key functions have been programmed, it may take from 5 to 10 seconds to cancel a single key (or button) function. Wait until the complete cancelling operation finishes.

TROUBLESHOOTING

What appears to be a malfunction is not always serious. First be sure to check basic adjustments.

<RM-SR1010U>

The remote control unit does not operate or a component does not operate using the remote control unit.
- Is the polarity of the batteries correct?
- Is the voltage of the batteries sufficient?
- Are there any obstacles to the remote control light sensor.
- Are the buttons and keys correctly and firmly pressed?
- Is being transmitted in the right direction?
  - — Aim at the RX-1010VTN when opening the COMPU LINK components connected with remote cable and for other components, aim at the target component and transmit.

Unable to program.
- Is the operation procedure correct?
- Is programming being attempted on modes other than "TAPE1", "DAT", "CD", "VIDEO/TV" VCR1 "VCR2", "PHONO", and "EXT"?
- Are the settings of this unit (RM-SR1010U) and other remote controls correct?
  - — Programming may not be correctly executed if placed closer than 2 to 4 inches or if too far away.

<RX-1010VTN>

No sound and no illumination.
Is the AC plug connected properly?

No sound from the speakers.
Are the speaker cords connected?
Are the SPEAKERS keys pressed?

Sound from one speaker only.
Are both speaker cords connected?
Is the BALANCE control set to one extreme or the other?

Continuous hiss or buzzing during FM reception.
The incoming signal may be to weak.
Use the correct antenna.

Occasional crackling noise during FM reception.
This may be automobile ignition noise. Move the antenna as far away from the road as possible.

Loud hum during record playing.
Is the turntable grounded?
Try to change the cord path.

Howling during record playing.
Is the turntable too close to a speaker?

– MEMO –

Technical Explanation

■ Dolby Pro Logic Surround Decoder

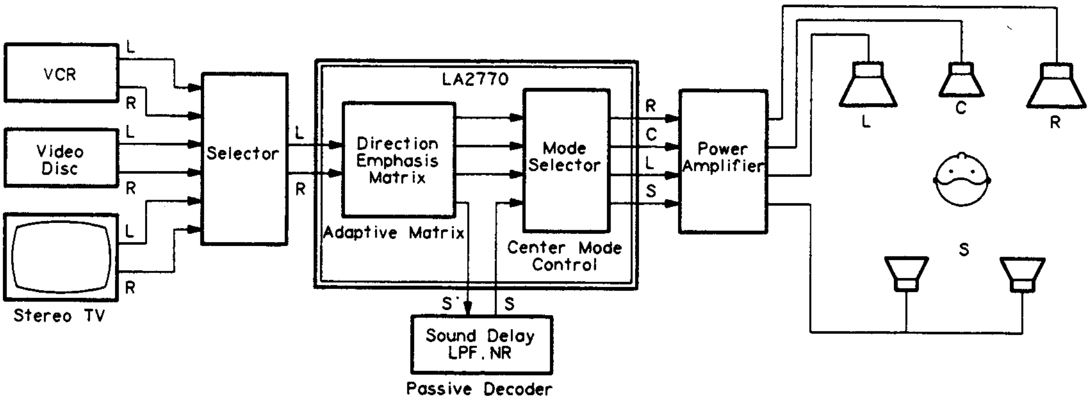
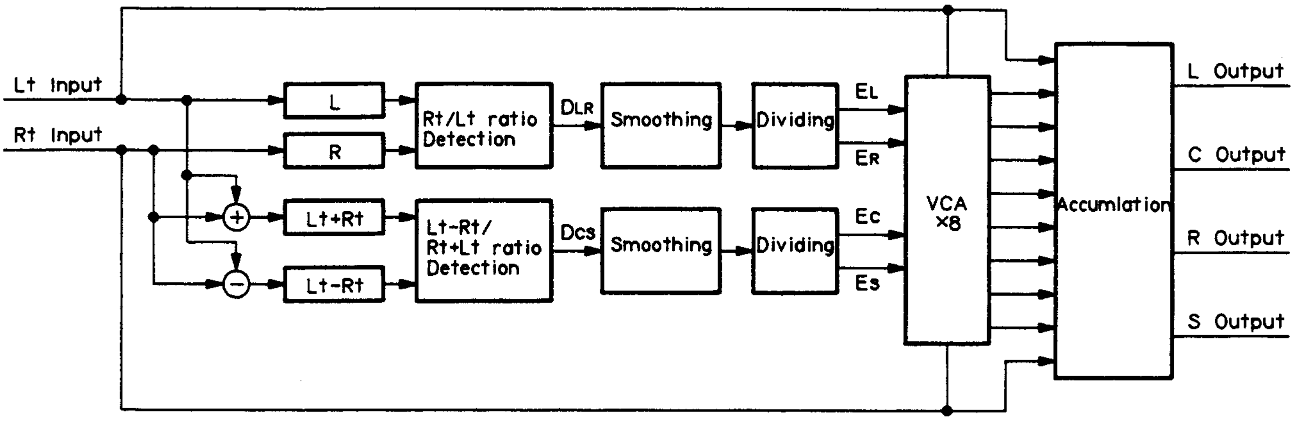


Fig.1 General System Diagram

(1) Dolby Pro Logic Surround System Construction
This system is constructed by three main characteristic signal processing technologies. The first is the four signal output channels, three in the front, left (L), center (C) and right (R), and one in the rear, surround (S).
The second is the directional emphasis added to the four channels. These two define the position, the direction and the movement of the sound.
The third is the sound delay, filter, and noise reduction applied to the sound channels for a more natural sounding sound field.
The combination of the above three technologies produces clear, smooth sound orientation and movement, and a rich sound field. The defined sound orientation delivers good stereophonic sound to the listener in any position enabling them complete relaxation to enjoy movies and such. This is a major characteristic of Dolby Pro Logic Surround System.
As described, the Dolby Pro Logic Surround System has four channels for output, but only two channels, L and R for input. This is because $C = L + R$ and $S = L - R$, and C and S are transmitted included in L and R.
For this, input signals are distinguished by designating them Lt (Left total) and Rt (Right total), meaning that input signals include C and S.
These Lt and Rt signals are the voice output of present dolby surround video tapes and disks. These signals can be reproduced as L and R stereophonic sounds with no problem because when the component of C (Lt + Rt) is reproduced in stereophonic sound, it is oriented at the center of the Left and Right channels, and the S component (Lt − Rt) becomes laterally antiphased and will not orient.
Lt and Rt are decoded into four channels L, C, R and S by the Dolby Pro-Logic Surround Decoder. The directional emphasis improves the channel separation of each channel, and the four channels are decoded as completely independent signals. The demodulated signals are each reproduced through the speaker delivering live sounding audio integrated with the image. The general construction is shown in Fig. 1. Generally, a surround channel uses two speakers simultaneously.
The speaker for the center channel must be positioned at the center front and must be placed near the TV. This is why the Dolby Pro Logic Surround System uses small-size speakers, similar to built-in TV speakers.
The above system is quite comparable to the surround systems used in movie theaters with the only differences being the size of the center speaker (in movie theaters, a large sized speaker is placed behind the screen), the number of surround speakers (because movie theaters are spacious, many speakers are used) and minute operation set values. As the system construction is completely identical, the sound reproduced by the Dolby Pro Logic Surround System is the same as that enjoyed in movie theaters.


Lt Input
Rt Input
L
R
Lt+Rt
Lt-Rt
Rt/Lt ratio Detection
Lt-Rt/ Rt+Lt ratio Detection
DLR
Dcs
Smoothing
Smoothing
Dividing
Dividing
EL
ER
Ec
Es
VCA ×8
Accumlation
L Output
C Output
R Output
S Output

$$D_{LR} = \log_a(Lt) - \log_a(Rt)$$

$$E_L = -D_{LR} : D_{LR} \geq 0, \quad 0 : D_{LR} < 0$$

$$E_R = 0 : D_{LR} \geq 0, \quad D_{LR} : D_{LR} < 0$$

$$D_{CS} = \log_a(Lt+Rt) - \log_a(Lt-Rt)$$

$$E_C = -D_{CS} : D_{CS} \geq 0, \quad 0 : D_{CS} < 0$$

$$E_S = 0 : D_{CS} \geq 0, \quad D_{CS} : D_{CS} < 0$$

Fig. 2 Adaptive Matrix Construction and Operation Theoretical Expression

(2) Directional Emphasis and Adaptive Matrix

The directional emphasis system expands the logarithmic ratio level of the four L, C, R and S signals. For example, when a person in the movie is speaking at the center front of the screen, the sound signals are concentrated in the center channel. In this case, by lowering the levels of the other channels, L, R and S, the sound orientation of the center channel becomes more defined. The same applies to the L. R and S channels. If the sound is between the channels, the range for that position is taken. When the sound moves, the operation is changed accordingly. The sound orientation and movement is defined by such operations and these operations are conducted instantly to provide natural audio sound.

The above operation is conducted as shown in Fig. 2. A control signal corresponding to the level ratios of Lt and Rt, and Lt + Rt and Lt − Lt is generated to control the eight Voltage Controlled Amplifier (VCA), and change the addition ratio of the Matrix which generate the L, C, R and S signals.

The control signal is smoothed by a time constant of two stages, providing smoother and more responsive sound movement.

The circuit diagram in Fig. 2 is called the Adaptive Matrix Circuit. By applying directional emphasis to Lt and Rt and generating L, C, R and S signals, this circuit is the core of the Dolby Pro Logic Surround System and provides the highest operation precision.

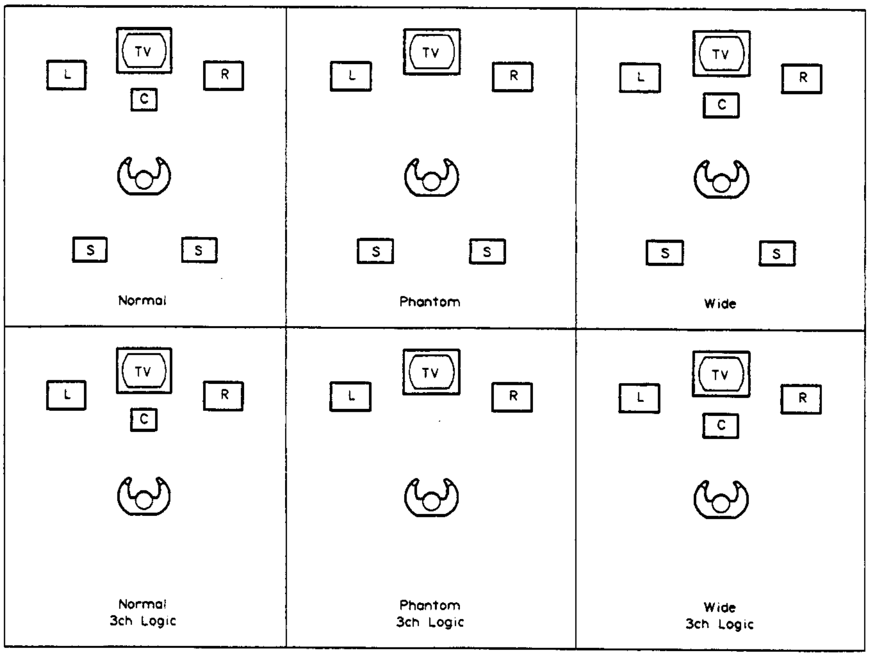

TV
L
R
C
S
S
Normal
Phantom
Wide
Normal 3ch Logic
Phantom 3ch Logic
Wide 3ch Logic

Fig. 3 Dolby Pro Logic Surround Mode Setting

(3) Center Mode Control and 3-Channel Logic Mode

L, C, R and S signals output from the Adaptive Matrix are input to the Center Mode Control Block. Here, the mode is switched according to the conditions of the speaker used for the center channel, as follows.

The L, C, R and S signals include all frequency bands. Normally, the Center Mode Control distributes the low frequencies (under 100 Hz) of the center channel between L and R, and only frequencies over 100 Hz are output from the center channel. This operation makes it possible to use small-size speakers, so that the speaker may be positioned near the TV. Only the low frequency sounds are distributed between L and R, and therefore, sound orientation remains unaffected.

In case a center speaker cannot be used, a phantom mode which distributes all the signals of the center channel between L and R is provided. In this case, sound orientation becomes a little unstable, but movement and stereophonic sound by directional emphasis is maintained. Furthermore, a wide mode to output all frequency sounds from the center channel, similar to movie theaters is also provided. If a large-size speaker is used in the center as in L and R, this mode will provide excellent sound.

The above modes are used depending on the conditions of the center speaker, but apart from this, the Dolby Pro-Logic Surround System provides a 3-channel logic mode, which does not use a surround speaker for pro-logic decoding. This mode is used when a surround speaker cannot be used.

Fig. 3 shows the speaker arrangement for each mode described.

It is obvious that the Dolby Pro-Logic Surround System provides a variety of modes to meet a wide range of conditions and requirements.

(4) Sound Delay

The Adaptive Matrix S output is delayed 15ms to 30ms by the Sound Delay Circuit, and is decoded by 7 kHz LPF and modified B type dolby NR. The hurst effect resulting from the delay reproduces a natural sounding sound field. Simple digital delay such as BBD and ADM (Adaptive Delta Modulation) are used for the sound delay.

The general construction of the Dolby Pro-Logic Surround Decoder is shown in Fig. 4.

(5) Differences Between Conventional Systems

In conventional dolby surround decoders (called passive decoders) the adaptive matrix circuit which puts directional emphasis is omitted, and only the surround channel is processed (Fig. 5). Therefore, the sound range is expanded but sound orientation and movement is undefined and the listening range is comparatively limited.

The Dolby Pro Logic Surround Decoder provides completely integrated image and sound reproduction. For the first time, the voice data in home-movies can be fully drawn out by Dolby Pro-Logic Surround Decoding.

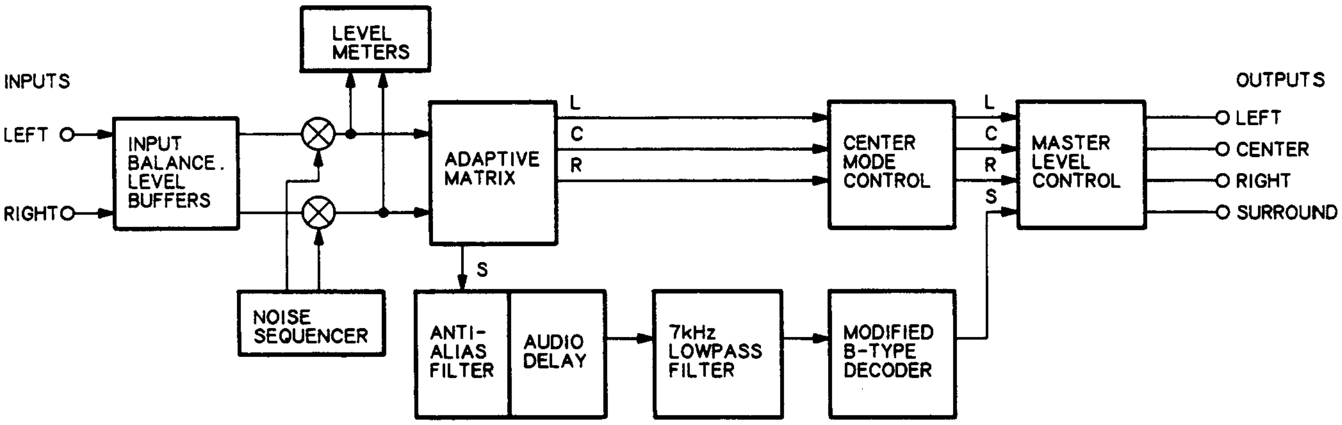

LEVEL METERS
INPUTS
LEFT
RIGHT
INPUT BALANCE. LEVEL BUFFERS
NOISE SEQUENCER
ADAPTIVE MATRIX
L
C
R
S
ANTI-ALIAS FILTER
AUDIO DELAY
7kHz LOWPASS FILTER
MODIFIED B-TYPE DECODER
CENTER MODE CONTROL
L
C
R
S
MASTER LEVEL CONTROL
OUTPUTS
LEFT
CENTER
RIGHT
SURROUND

Fig. 4 Dolby Pro Logic Surround Decoder Block Diagram

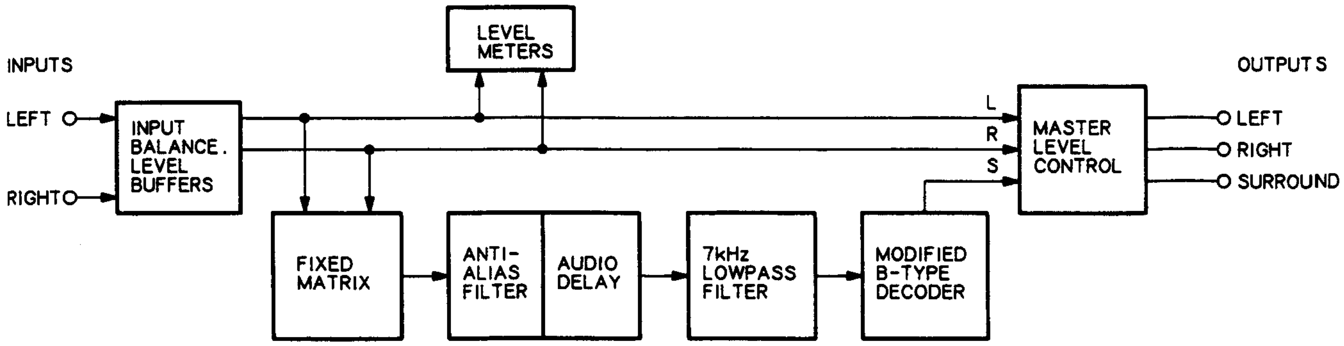

LEVEL METERS
INPUTS
LEFT
RIGHT
INPUT BALANCE. LEVEL BUFFERS
FIXED MATRIX
ANTI-ALIAS FILTER
AUDIO DELAY
7kHz LOWPASS FILTER
MODIFIED B-TYPE DECODER
L
R
S
MASTER LEVEL CONTROL
OUTPUTS
LEFT
RIGHT
SURROUND

Fig. 5 Dolby Surround Decoder Block Diagram

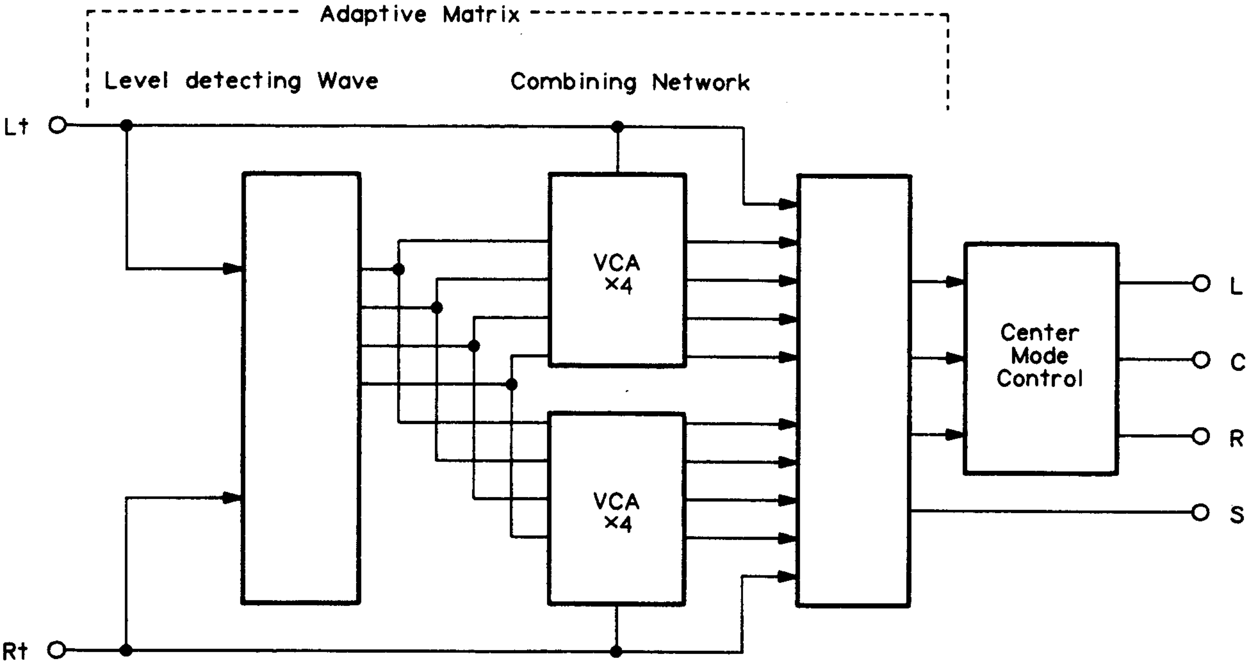


Fig. 6 LA2770 Block Diagram

(6) LA2770 Function and Characteristic

Fig. 6 is a function block diagram of the Dolby Pro-Logic Surround IC. IC chip LA2770 includes the Adaptive Matrix Block which applies directional emphasis and the Center Mode Control Block which controls the center mode. The Adaptive Matrix is composed of the following three blocks.

(A) Level Detection Block

Here, the sound level ratios of Left and Right, and Center and Surround are detected, and four control signals are generated. By applying directional emphasis, it determines which sound direction is dominant and accordingly, the directional emphasis becomes fully effective by setting a wide dynamic range for this block and improving the linearity in its range.
The LA2770 realized linearity with dynamic range over 60dB and maximized the effectiveness of this system. Also, a two-stage time constant circuit is used to deliver natural sound movement.

(B) VCA Block

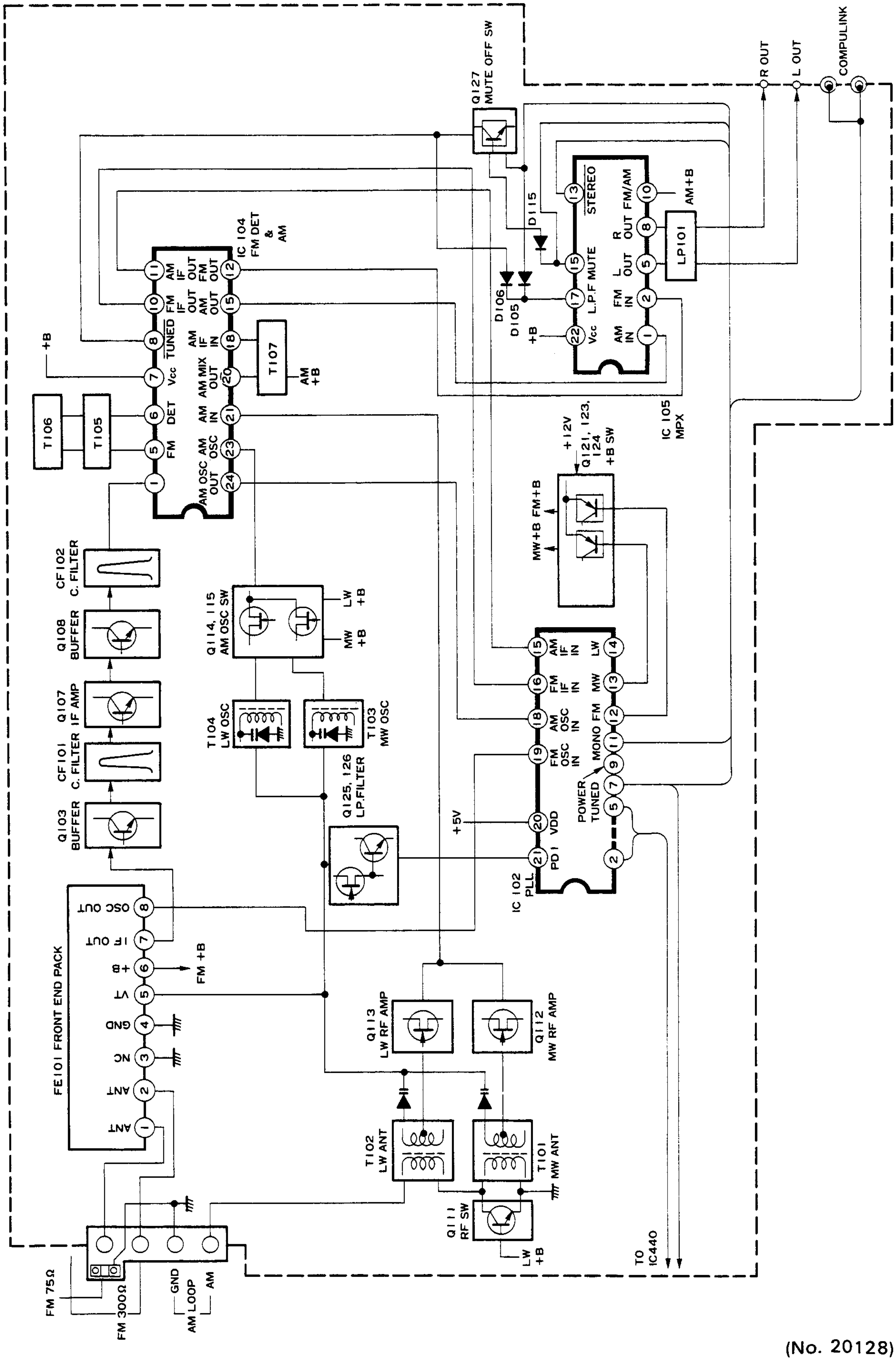
Using 8 VCAs, this block varies the encoded input signal levels of the two channels, left and right, with the four control signals detected by the Level Detection Block. As the characteristics of these eight circuits must be matched rigorously, the circuits are also required to have a wide control range for varying levels and a good linearity.
Here, to avoid sound deterioration by harmful transient reaction, a block to detect the control signals and a newly developed VCA with an improved input circuit are used. Through them, a control range of over 30dB was obtained and the transient reaction characteristic was improved for superior sound quality.

(C) Combining Network Block

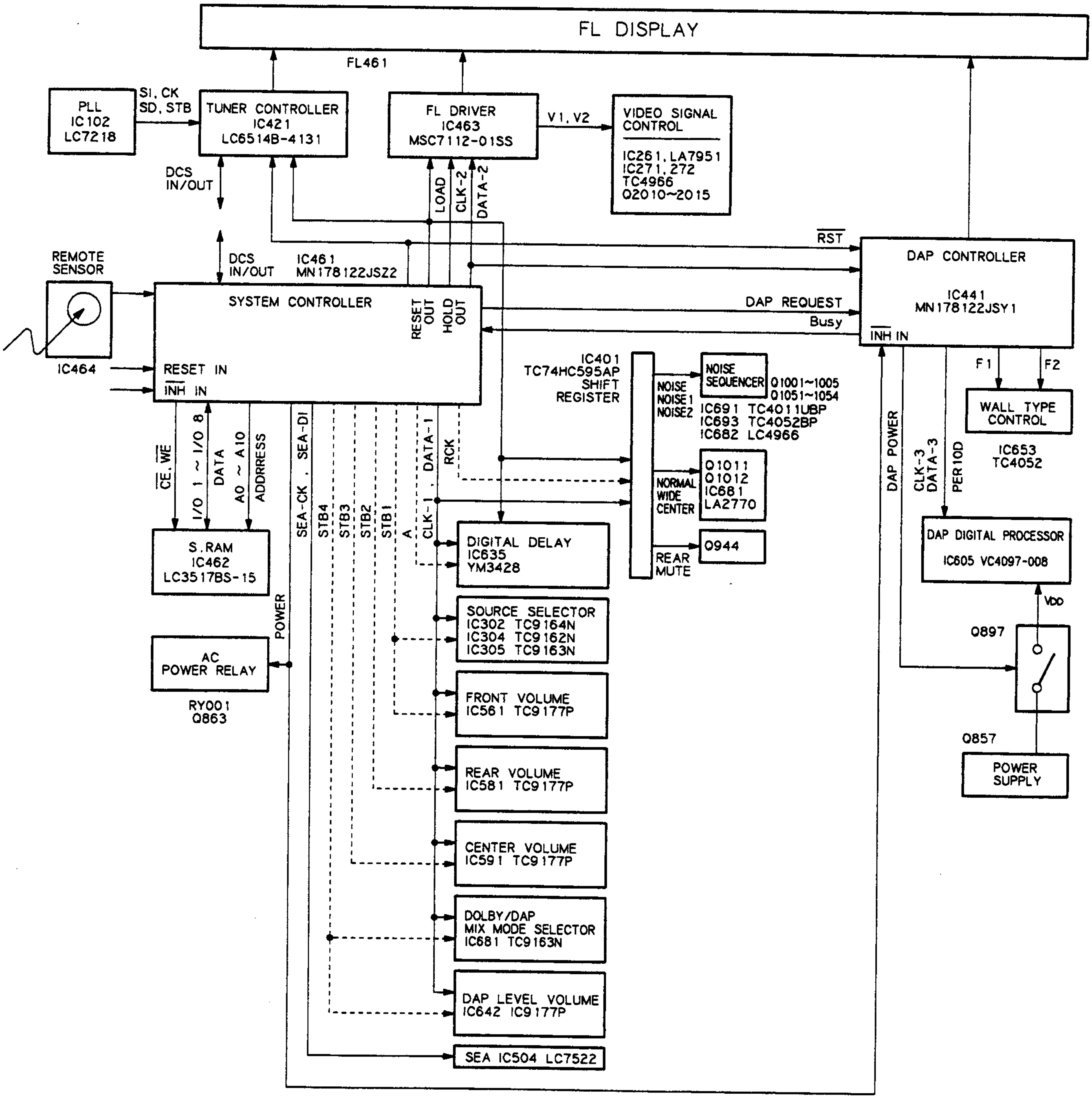
This block produces four channel signals, Left, Right, Center and Surround, by combining the encoded input signals from the two channels, Left and Right, and the eight VCA output signals. Here, with the adder applied to combine the signals, the addition ratio must be matched rigorously, or the separation characteristic between each channel will be affected greatly.
The addition ratio greatly depends on the resistance ratio inside IC and the element precision, which make up the addition ratio. This IC provides adequate separation characteristics with a pattern layout designed with this point in mind.
The Center Mode Control, operates under the three surround system modes, Normal, Wide and Phantom. Also, electronic control switches for the 3-channel logic mode and the center off mode, to control the balance between left and right channels, are built-in.
The general block diagram of LA2770, providing all the above functions, is shown in page 1-52.
This IC is contained in a DIP 42 shrink-type package. The chip size is 4.1 mm × 4.4 mm. It is an analogue LSI; an analogue IC that contains numerous elements.
The line source range is from 9 V to 14 V.
The dolby level which indicates basic input level is 300 mV.
As this diagram shows, the four output signals Left, Center, Right and Surround can be produced just by inputting the left and right encoded signals.

Block Diagrams

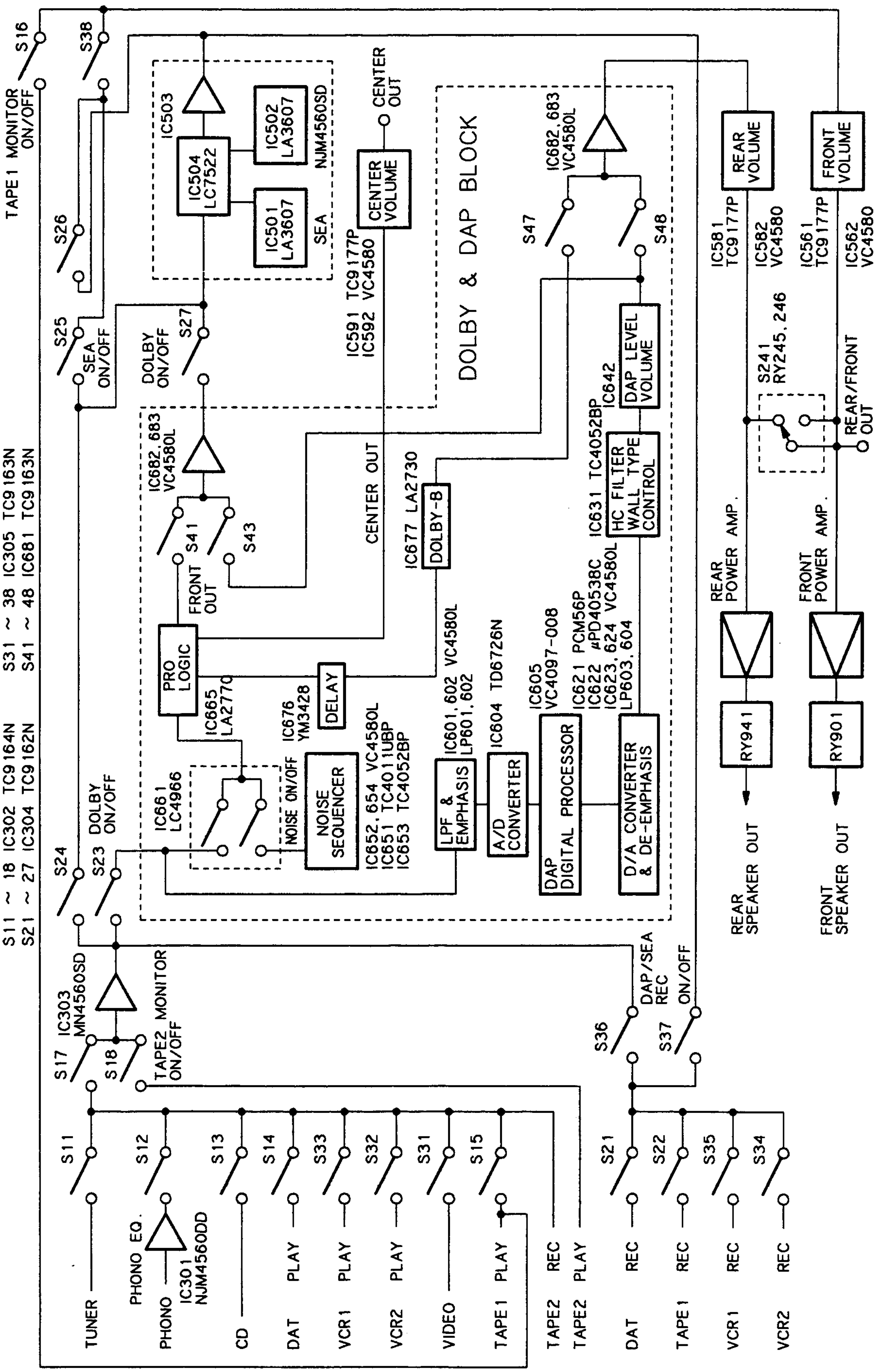
Tuner Section


FE101 FRONT END PACK
ANT
ANT
NC
GND
VT
+B
IF OUT
OSC OUT
FM +B
Q103 BUFFER
CF101 C. FILTER
Q107 IF AMP
Q108 BUFFER
CF102 C. FILTER
T106
T105
IC 104 FM DET & AM
FM
DET
Vcc
TUNED
FM IF OUT
AM IF OUT
AM OSC OUT
AM OSC
AM IN
AM MIX OUT
AM IF IN
AM OUT
FM OUT
+B
T107
AM +B
Q114, 115 AM OSC SW
LW +B
MW +B
T104 LW OSC
T103 MW OSC
Q125, 126 LP.FILTER
+5V
IC 102 PLL
PD1
VDD
FM OSC IN
AM OSC IN
FM IF IN
AM IF IN
LW
MW
MONO FM
POWER TUNED
Q127 MUTE OFF SW
D115
D106
D105
IC 105 MPX
Vcc
AM IN
FM IN
L.P.F MUTE
L OUT
R OUT
FM/AM
STEREO
AM+B
LP101
+12V
Q121, 123, 124 +B SW
MW+B FM+B
R OUT
L OUT
COMPULINK I
Q113 LW RF AMP
Q112 MW RF AMP
T102 LW ANT
T101 MW ANT
Q111 RF SW
LW +B
TO IC440
FM 75Ω
FM 300Ω
GND
AM LOOP
AM

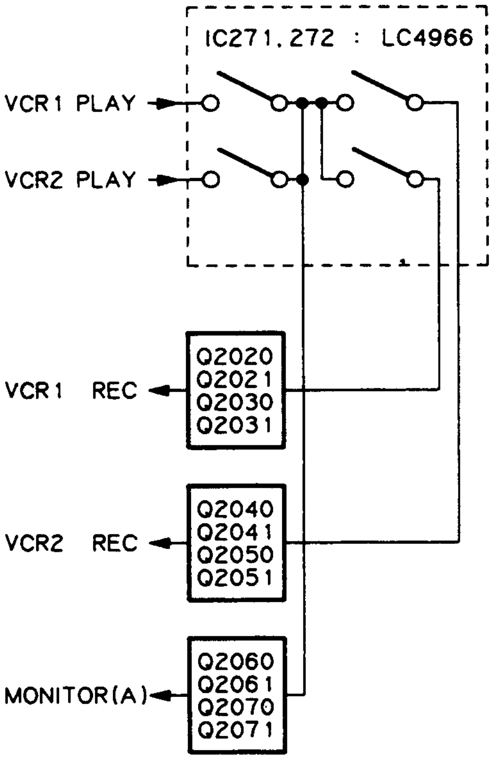
Control Section


FL DISPLAY
FL461
PLL
IC102
LC7218
SI, CK
SD, STB
TUNER CONTROLLER
IC421
LC6514B-4131
FL DRIVER
IC463
MSC7112-01SS
V1, V2
VIDEO SIGNAL CONTROL
IC261, LA7951
IC271, 272
TC4966
Q2010~2015
DCS
IN/OUT
LOAD
CLK-2
DATA-2
RST
DAP CONTROLLER
IC441
MN178122JSY1
REMOTE SENSOR
DCS
IN/OUT
IC461
MN178122JSZ2
SYSTEM CONTROLLER
RESET OUT
HOLD OUT
DAP REQUEST
Busy
INH IN
IC464
RESET IN
INH IN
IC401
TC74HC595AP
SHIFT
REGISTER
NOISE
NOISE1
NOISE2
NOISE SEQUENCER
Q1001~1005
Q1051~1054
IC691 TC4011UBP
IC693 TC4052BP
IC682 LC4966
F1
F2
WALL TYPE CONTROL
IC653
TC4052
CE, WE
I/O 1 ~ I/O 8
DATA
A0 ~ A10
ADDRRESS
SEA-CK, SEA-DI
STB4
STB3
STB2
STB1
A
CLK-1, DATA-1
RCK
NORMAL
WIDE
CENTER
Q1011
Q1012
IC681
LA2770
REAR
MUTE
Q944
DAP POWER
CLK-3
DATA-3
PERIOD
DAP DIGITAL PROCESSOR
IC605 VC4097-008
VDD
Q897
Q857
POWER SUPPLY
S.RAM
IC462
LC3517BS-15
DIGITAL DELAY
IC635
YM3428
SOURCE SELECTOR
IC302 TC9164N
IC304 TC9162N
IC305 TC9163N
POWER
AC
POWER RELAY
RY001
Q863
FRONT VOLUME
IC561 TC9177P
REAR VOLUME
IC581 TC9177P
CENTER VOLUME
IC591 TC9177P
DOLBY/DAP
MIX MODE SELECTOR
IC681 TC9163N
DAP LEVEL VOLUME
IC642 IC9177P
SEA IC504 LC7522

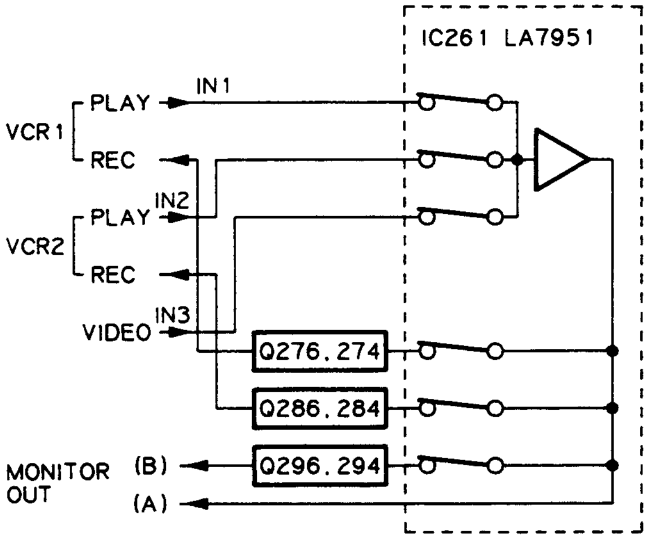
Audio Section


TAPE1 MONITOR ON/OFF
S16
S38
S26
S25
SEA ON/OFF
DOLBY ON/OFF
S27
IC503
IC504 LC7522
IC502 LA3607
IC501 LA3607
SEA
NJM4560SD
CENTER VOLUME
CENTER OUT
IC591 TC9177P
IC592 VC4580
DOLBY & DAP BLOCK
IC682, 683 VC4580L
S47
S48
DAP LEVEL VOLUME
IC642
IC631 TC4052BP
HC FILTER WALL TYPE CONTROL
REAR VOLUME
FRONT VOLUME
IC581 TC9177P
IC582 VC4580
IC561 TC9177P
IC562 VC4580
S241 RY245, 246
REAR/FRONT OUT
REAR POWER AMP.
FRONT POWER AMP.
RY941
RY901
REAR SPEAKER OUT
FRONT SPEAKER OUT
S11 ~ 18 IC302 TC9164N
S21 ~ 27 IC304 TC9162N
S31 ~ 38 IC305 TC9163N
S41 ~ 48 IC681 TC9163N
IC682, 683 VC4580L
S41
S43
FRONT OUT
CENTER OUT
IC677 LA2730
DOLBY-B
PRO LOGIC
IC665 LA2770
DELAY
IC676 YM3428
IC661 LC4966
NOISE ON/OFF
NOISE SEQUENCER
IC652, 654 VC4580L
IC651 TC4011UBP
IC653 TC4052BP
LPF & EMPHASIS
IC601, 602 VC4580L
LP601, 602
A/D CONVERTER
IC604 TD6726N
DAP DIGITAL PROCESSOR
IC605 VC4097-008
D/A CONVERTER & DE-EMPHASIS
IC621 PCM56P
IC622 µPD40538C
IC623, 624 VC4580L
LP603, 604
S24
S23
DOLBY ON/OFF
IC303 MN4560SD
S17
S18
TAPE2 MONITOR ON/OFF
DAP/SEA REC ON/OFF
S36
S37
S11
S12
S13
S14
S33
S32
S31
S15
S21
S22
S35
S34
PHONO EQ.
IC301 NJM4560DD
TUNER
PHONO
CD
DAT PLAY
VCR1 PLAY
VCR2 PLAY
VIDEO
TAPE1 PLAY
TAPE2 REC
TAPE2 PLAY
DAT REC
TAPE1 REC
VCR1 REC
VCR2 REC

Video Section

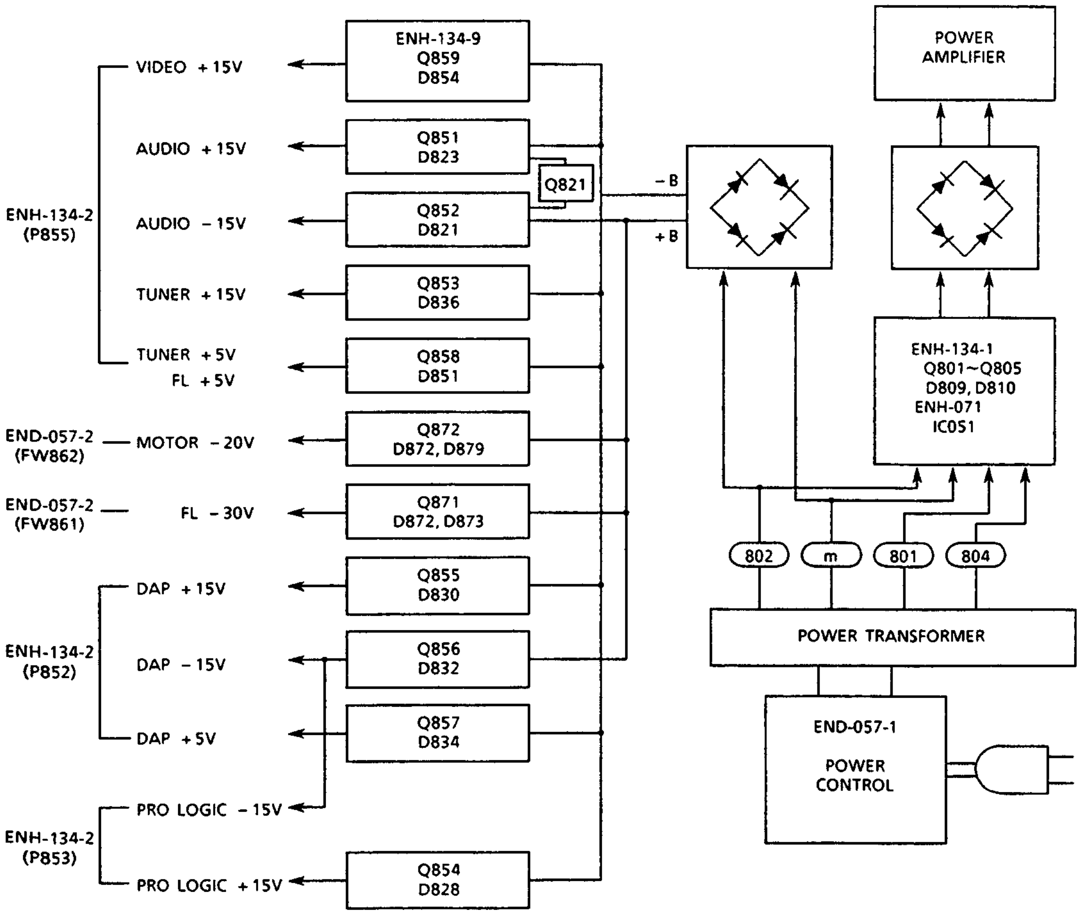

IC271, 272 : LC4966
VCR1 PLAY
VCR2 PLAY
VCR1 REC
Q2020
Q2021
Q2030
Q2031
VCR2 REC
Q2040
Q2041
Q2050
Q2051
MONITOR(A)
Q2060
Q2061
Q2070
Q2071

S-Video Block

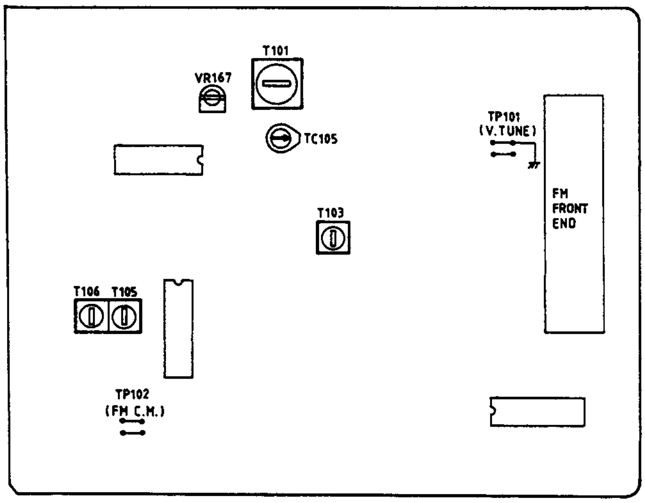

IC261 LA7951
VCR1
PLAY
IN1
REC
VCR2
PLAY
IN2
REC
VIDEO
IN3
Q276, 274
Q286, 284
Q296, 294
MONITOR OUT
(B)
(A)

Composite Video Block

Power Supply Section


ENH-134-9
Q859
D854
VIDEO +15V
Q851
D823
AUDIO +15V
Q821
Q852
D821
AUDIO -15V
ENH-134-2
(P855)
Q853
D836
TUNER +15V
Q858
D851
TUNER +5V
FL +5V
END-057-2
(FW862)
MOTOR -20V
Q872
D872, D879
END-057-2
(FW861)
FL -30V
Q871
D872, D873
DAP +15V
Q855
D830
ENH-134-2
(P852)
DAP -15V
Q856
D832
DAP +5V
Q857
D834
PRO LOGIC -15V
ENH-134-2
(P853)
PRO LOGIC +15V
Q854
D828
-B
+B
POWER AMPLIFIER
ENH-134-1
Q801~Q805
D809, D810
ENH-071
IC051
802
m
801
804
POWER TRANSFORMER
END-057-1
POWER CONTROL

FM/AM Tuner Alignment Procedures



(1) Front-end Section

1. Set the frequency display to "108.0 MHz" and the FM MODE switch to "MONO" position.
2. Confirm that there is noise with no input signal.
3. Confirm that the output of test point "TP101" is 8.0 V.
4. Set the frequency display to "87.5 MHz" and confirm that the output of test point "TP101" is 1.6 V.

(2) Stereo Separation

1. Tune to a 98.1 MHz stereo signal.
2. Adjust VR167 so that the channel separation becomes maximum.

(3) Center Meter and Distortion

FM detector coil : T105, T106

1. Connect a digital voltmeter to test point "TP102", and tune to a 100.1 MHz signal (1kHz modulation, 75 kHz deviation) with SSG ATT 70dB.
2. Adjust T105 so that the digital voltmeter reads 0 mV.
3. At the same time, adjust T106 so that the distortion of the audio output is minimized.

(4) AM Section

Note: [ ]; the U.S.A. and Canada
( ); Australia, the U.K., Continental Europe and Other Countries

MW oscillator coil : T103

1. Set the frequency display to [530] (522) kHz and confirm that the output of test point "TP101" is [0.9] (0.9) V.
2. Set the frequency display to [1710] (1629) kHz and confirm that the output of test point "TP101" is [8.0] (7.5) V.
3. If its output is over 9 V at [1710] kHz, adjust T103 to obtain [9.0] V.

MW antenna coil : T101

4. Connect a loop antenna to the "AM LOOP" terminal on the rear panel.
5. Adjust T101 to obtain the best reception sensitivity at [600] (603) kHz.

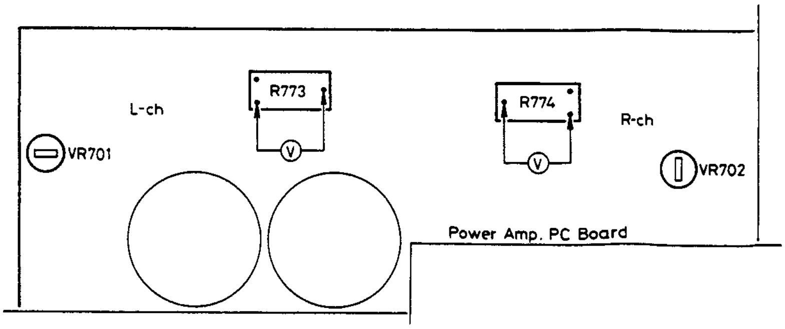
MW antenna trimmer : TC105

6. Adjust TC105 to obtain the best reception sensitivity at [1400] (1403) kHz.

Power Amplifier Adjustment Procedures

■ Idling Current

1. Turn VR701 and VR702 fully counter-clockwise before the power switch on.
2. Warm up at least 5 minutes before adjustment.
3. Must keep the heatsink to prevent overheating before adjustment.
4. Set the volume control to minimum during this adjustment.
5. Connect a DC voltmeter to R773 resistor's leads for left channel, or to R774 for right channel.
6. Adjust VR701 for left channel, or VR702 for right channel, so that the DC voltmeter becomes 5 mV ± 3 mV.



Removal Procedures

Removing the Top Cover

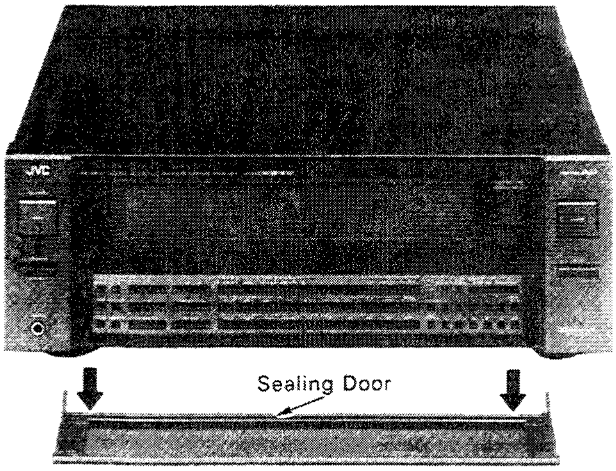
1. Remove the four screws on both sides.
2. Remove the two screws located on the top of the rear panel.
3. Slightly open both sides of the metal cover, to the left and right, and raise the rear side.
4. Then slowly lift it up and straight backward.

Removing the Front Panel

1. Remove the top cover. (Refer to above item.)
2. Remove the three screws fixing the front panel on its upper side.
3. Remove the five screws fixing the front panel on its under side, and then pull out the front panel.

Removing the Sealing Door

1. Open the sealing door.
2. Pull out the sealing door toward you. (See fig.1.)



(Fig. 1)

Removing the Front PCB

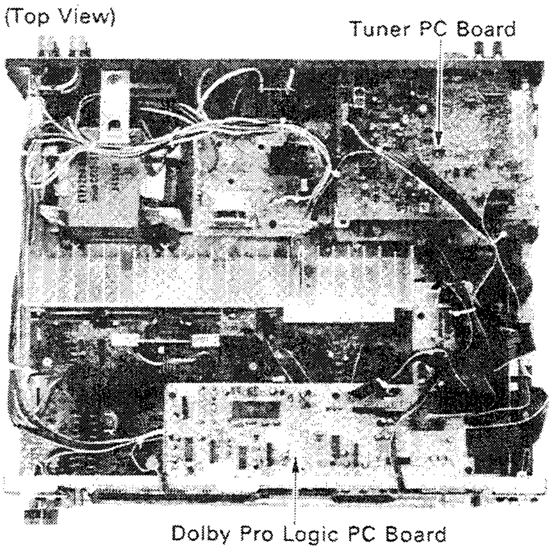
1. Remove the front panel. (Refer to above item.)
2. Remove the three plastic rivets fastening the front pc board.

Removing the Tuner PCB

1. Remove the top cover. (Refer to above item.)
2. Remove the three screws fixing the tuner pc board. (See fig.2.)
3. Remove the four screws fixing the antenna terminal.

Removing the Dolby Pro Logic PCB

1. Remove the top cover. (Refer to above item.)
2. Pull out the five plastic rivets fastening the dolby pro logic pc board. (See fig.2.)



(Fig. 2)

Removing the Bottom Plate

1. Remove the nineteen screws fixing the bottom plate.

Removing the DAP PCB

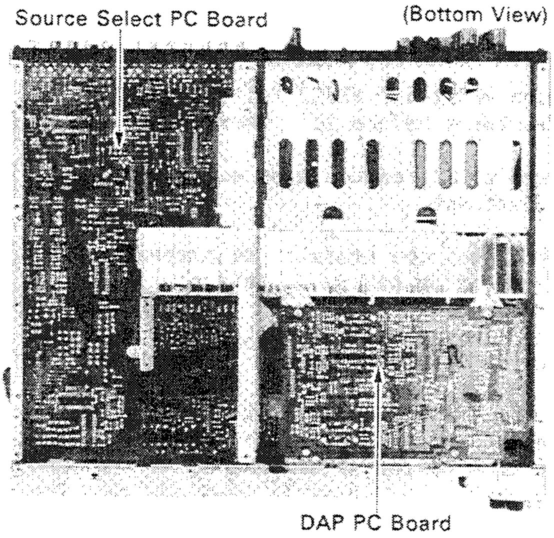
1. Remove the bottom plate. (Refer to above item.)
2. Remove the four screws fixing the DAP pc board. (See fig.3.)

Removing the DAP Cover

1. Remove the DAP pc board. (Refer to above item.)
2. Remove the four screws fixing the DAP cover.

Removing the P.Transistors

1. Remove the DAP cover. (Refer to above item.)
2. Unsolder the power transistors.
3. Remove the screws holding the power transistors using a pair of pliers, a wrench, or a bent screwdriver.



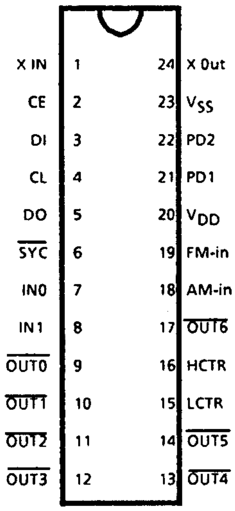
(Fig. 3)

Description of Major LSI ICs

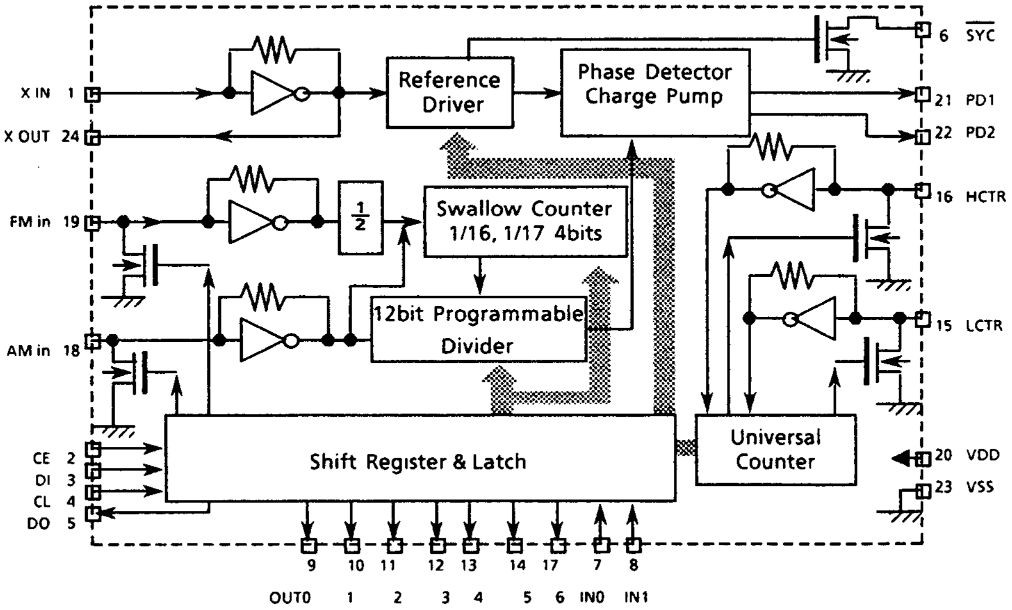
■ IC102 : LC7218 (PLL Synthesizer)

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC421.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC421.

2. Terminal Layout


X IN 1
CE 2
DI 3
CL 4
DO 5
SYC 6
IN0 7
IN1 8
OUT0 9
OUT1 10
OUT2 11
OUT3 12
24 X Out
23 V$_{SS}$
22 PD2
21 PD1
20 V$_{DD}$
19 FM-in
18 AM-in
17 OUT6
16 HCTR
15 LCTR
14 OUT5
13 OUT4

3. Block Diagram


X IN 1
X OUT 24
FM in 19
AM in 18
CE 2
DI 3
CL 4
DO 5
Reference Driver
Phase Detector Charge Pump
1/2
Swallow Counter 1/16, 1/17 4bits
12bit Programmable Divider
Shift Register & Latch
Universal Counter
6 SYC
21 PD1
22 PD2
16 HCTR
15 LCTR
20 VDD
23 VSS
9 10 11 12 13 14 17 7 8
OUT0 1 2 3 4 5 6 IN0 IN1

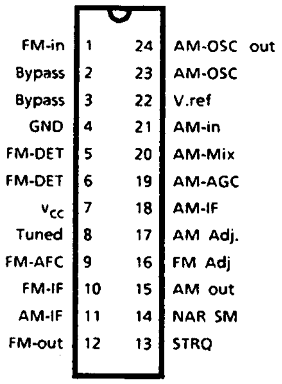
4. Pin Function Description

Pin No.	Symbol	Name	I/O	Functions and Operations
1,24	X in , X out	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	DI	I	Receive the control data from the controller (IC421).
4	CL	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	SYC	–	Not used.
7	IN0	Tuned in	I	Receive the tuned signal from IC104 (LA1266A).
8	IN1	Stop in	I	Not used.
9	OUT 0	POWER	O	Not used.
10	OUT 1	QSC	O	ON mode with " H " and OFF mode with " L ".
11	OUT2	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	OUT3	FM	O	It is "H" on FM mode.
13	OUT4	MW	O	It is "H" on AM mode.
14	OUT5		–	Not used.
15	LCTR	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	HCTR	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	OUT6	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) go to "H".
18	AM in	AM in	I	Input the local oscillator signal of AM.
19	FM in	FM in	I	Input the local oscillator signal of FM.
20	V$_{DD}$	V$_{DD}$	–	This is a terminal of power supply.
21	PD1	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	PD2	O	Not used.
23	Vss	Vss	–	Power supply.

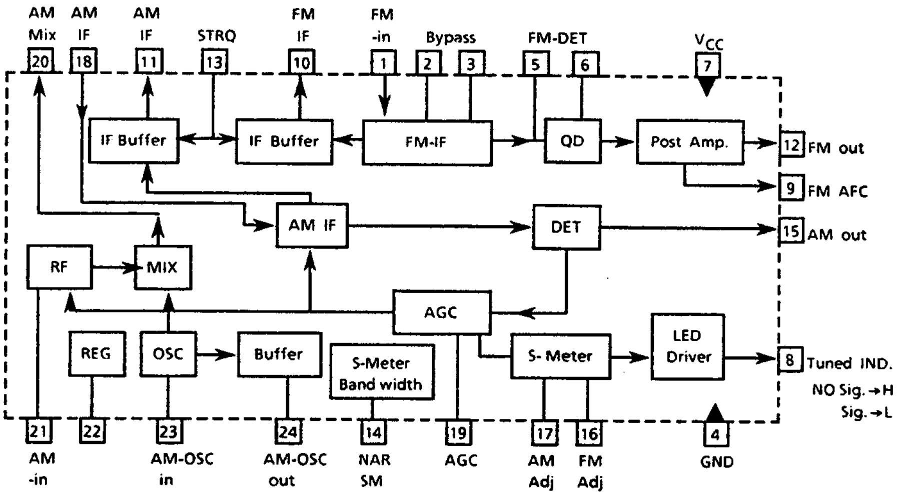
■ IC104 : LA1266A (FM AM IF AMP & detector)

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View


FM-in 1
Bypass 2
Bypass 3
GND 4
FM-DET 5
FM-DET 6
Vcc 7
Tuned 8
FM-AFC 9
FM-IF 10
AM-IF 11
FM-out 12
24 AM-OSC out
23 AM-OSC
22 V.ref
21 AM-in
20 AM-Mix
19 AM-AGC
18 AM-IF
17 AM Adj.
16 FM Adj
15 AM out
14 NAR SM
13 STRQ

3. Block Diagram


AM Mix 20
AM IF 18
AM IF 11
STRQ 13
FM IF 10
FM -in 1
Bypass 2 3
FM-DET 5 6
Vcc 7
IF Buffer
IF Buffer
FM-IF
QD
Post Amp.
12 FM out
9 FM AFC
AM IF
DET
15 AM out
RF
MIX
AGC
REG
OSC
Buffer
S-Meter Band width
S- Meter
LED Driver
8 Tuned IND.
NO Sig.→H
Sig.→L
21 AM -in
22
23 AM-OSC in
24 AM-OSC out
14 NAR SM
19 AGC
17 AM Adj
16 FM Adj
4 GND

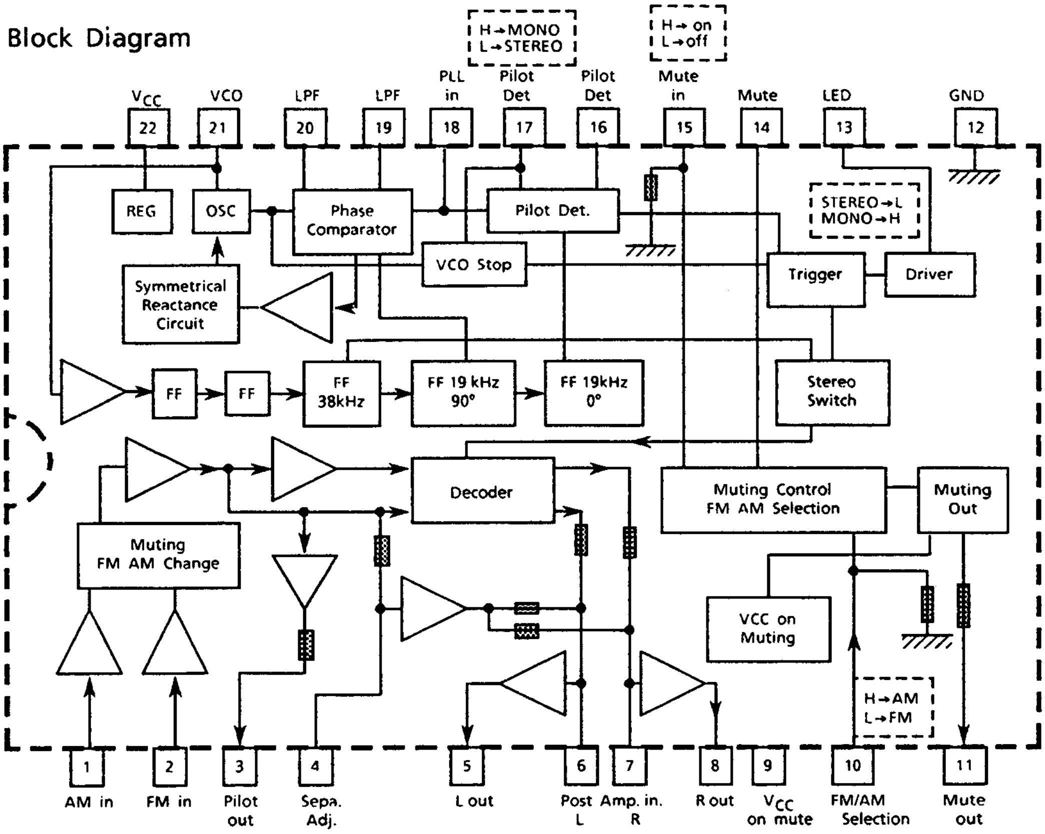
4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass		Bypass of FM IF Amp.
4	GND		This is the device ground terminal.
5,6	FM DET		FM detect transformer.
7	V_{CC}		This is the power supply terminal.
8	Tuned		Not used.
9	FM AFC	O	This is an output terminal of voltage for FM-AFC.
10	FM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin13, the signal of FM IF does output.
11	AM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin13, the signal of AM IF does output.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM		Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj		For adjust the stop level (or mute level) of FM.
17	AM Adj		For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF		
23	AM-OSC		This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ IC105 : LA3401(FM MPX Detector)

1. The main function descriptions
   (1) Detect the FM Multiplex Signal (Stereo signal).
   (2) When the FM Signal is Stereo Modulation , it will output the signal for indicator.
   (3) AM / FM Audio Amplifier.

2. Top View & Block Diagram


H→MONO
L→STEREO
H→on
L→off
VCC
VCO
LPF
LPF
PLL in
Pilot Det
Pilot Det
Mute in
Mute
LED
GND
22
21
20
19
18
17
16
15
14
13
12
REG
OSC
Phase Comparator
Pilot Det.
VCO Stop
STEREO→L
MONO→H
Trigger
Driver
Symmetrical Reactance Circuit
FF
FF
FF 38kHz
FF 19 kHz 90°
FF 19kHz 0°
Stereo Switch
Decoder
Muting Control FM AM Selection
Muting Out
Muting FM AM Change
VCC on Muting
H→AM
L→FM
1
2
3
4
5
6
7
8
9
10
11
AM in
FM in
Pilot out
Sepa. Adj.
L out
Post Amp. in. L R
R out
VCC on mute
FM/AM Selection
Mute out

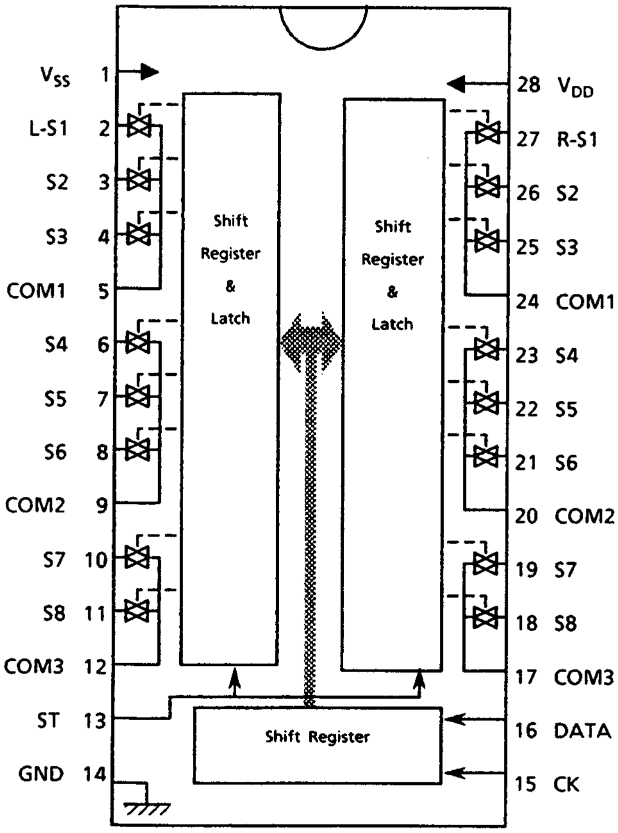
3. Pin Function Description

Pin No.	Symbol	H/L	I/O	Functions and Operations
1	AM in			This is an input terminal for AM detection signal.
2	FM in			This is an input terminal for FM detection signal.
3	Pilot out			Output of MPX pilot signal (Connected to Pin18).
4	Sepa. Adj.			Separation adjustment.
5	L. out		O	Left channel signal output.
6	RL		O	Reversal output of Pin5.
7	RR		O	Reversal output of Pin8.
8	R out		O	Right channel signal output
9	V_{CC} on mute			The muting time after power on is controlled by the connected capacitor.
10	FM / AM		I	Switch-over the FM / AM input. "H" : AM, "L" : FM
11	Mute out		O	Muting signal output.
12	GND			Ground terminal.
13	Stereo		O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute			The muting time at switch-over the FM / AM is changed by the connected capacitor.
15	Mute in		I	Muting signal input. "H" : Mute on, "L" : Mute off.
16	LPF			Low pass filter of pilot detector.
17	LPF			While this terminal going "H", the VCO stop.
18	Pilot in			PLL input.
19	LPF			Loop filter of PLL.
20	LPF			Loop filter of PLL.
21	VCO			Voltage controlled oscillator terminal.
22	V_{CC}			Power supply.

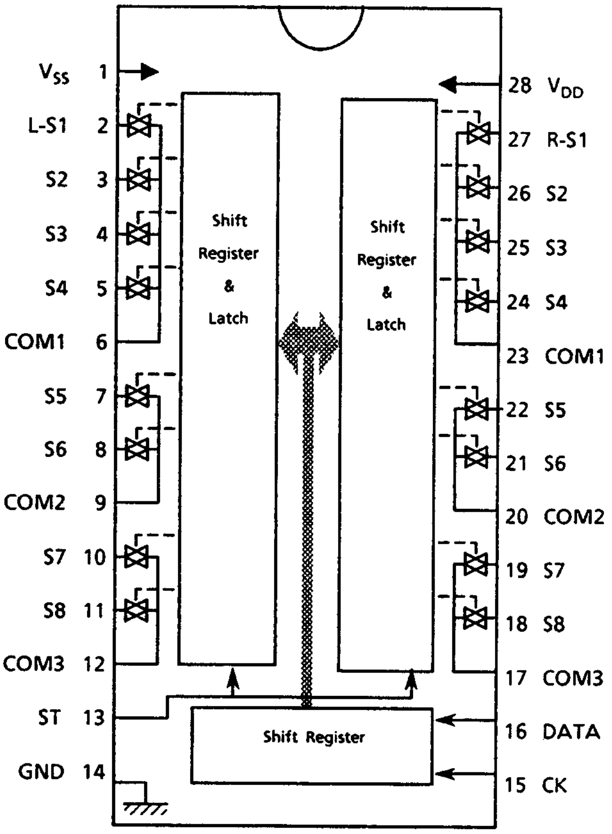
■ IC305, IC681 : TC9163N, IC302 : TC9164N (Analog Switch)

1. Functions
   These analog switches are controlled by 14 bit serial date from computer for selecting the source.
2. Terminal Layout & Block diagram

TC9163N (IC305, IC681)


V_SS 1
L-S1 2
S2 3
S3 4
COM1 5
S4 6
S5 7
S6 8
COM2 9
S7 10
S8 11
COM3 12
ST 13
GND 14
28 V_DD
27 R-S1
26 S2
25 S3
24 COM1
23 S4
22 S5
21 S6
20 COM2
19 S7
18 S8
17 COM3
16 DATA
15 CK
Shift Register & Latch
Shift Register & Latch
Shift Register

TC9164N (IC302)


V_SS 1
L-S1 2
S2 3
S3 4
S4 5
COM1 6
S5 7
S6 8
COM2 9
S7 10
S8 11
COM3 12
ST 13
GND 14
28 V_DD
27 R-S1
26 S2
25 S3
24 S4
23 COM1
22 S5
21 S6
20 COM2
19 S7
18 S8
17 COM3
16 DATA
15 CK
Shift Register & Latch
Shift Register & Latch
Shift Register

3. First 10bits are used to source select. Last 4 bits are chip select. The switches (S1~S8) are connected to common terminals (COM1~COM3) according to the DATA from computer.

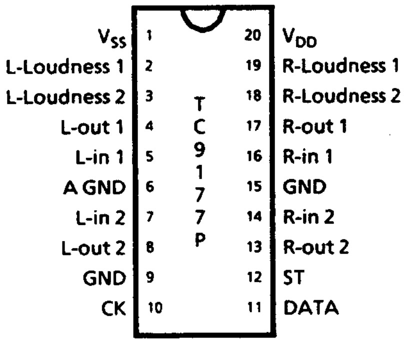
	Switch Select bit								CH1 (L-S1~S8)	CH2 (R-S1~S8)	Chip Select bit			
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14
TC9163N	The switch is ON when the data is "1".										1	0	0	0
TC9164N											0	1	0	0

■ IC561, 581, 591, 641 : TC9177P (Volume Control)

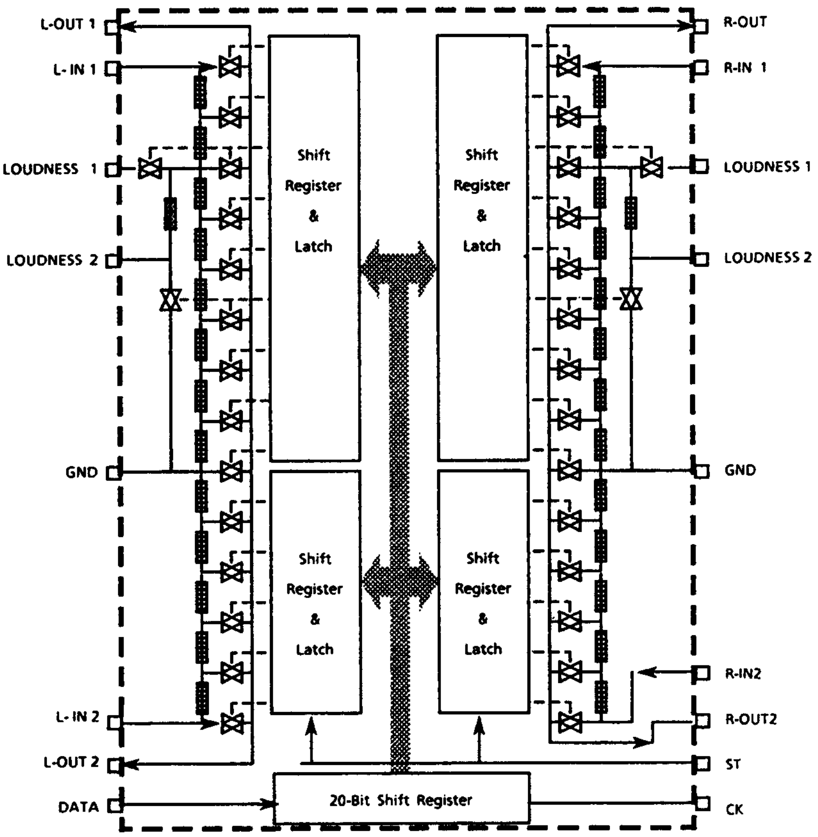
1. Functions

This is used for Volume Control.
The attenuation levels are 0 to −76dB, with 2dB step.

2. Terminal Layout


V_{SS} 1
L-Loudness 1 2
L-Loudness 2 3
L-out 1 4
L-in 1 5
A GND 6
L-in 2 7
L-out 2 8
GND 9
CK 10
TC9177P
20 V_{DD}
19 R-Loudness 1
18 R-Loudness 2
17 R-out 1
16 R-in 1
15 GND
14 R-in 2
13 R-out 2
12 ST
11 DATA

3. Block Diagram


L-OUT 1
L-IN 1
LOUDNESS 1
LOUDNESS 2
GND
L-IN 2
L-OUT 2
DATA
R-OUT
R-IN 1
LOUDNESS 1
LOUDNESS 2
GND
R-IN2
R-OUT2
ST
CK
Shift Register & Latch
Shift Register & Latch
Shift Register & Latch
Shift Register & Latch
20-Bit Shift Register

Arrangement of data

TC9177	Lch	Rch		0dB		-4dB			-8dB	-9dB	-10dB	-20dB	-30dB	-40dB	-50dB	-60dB	-70dB	0	0	0	1

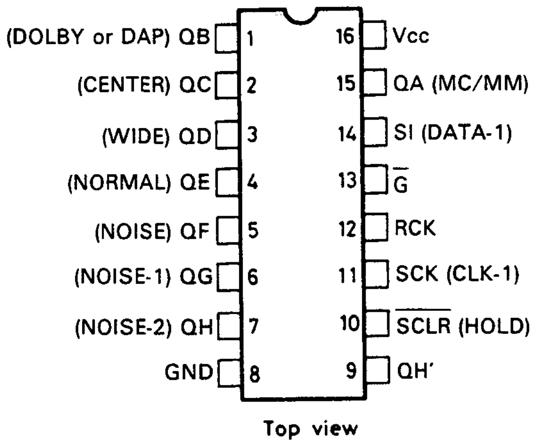
↑ Loudness "1" : on, "0" : off.

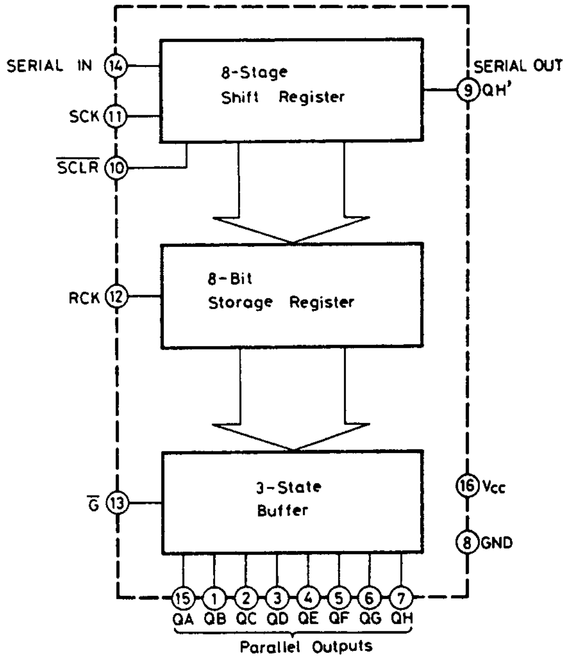
Chip Select ↑

4. Pin Function Description

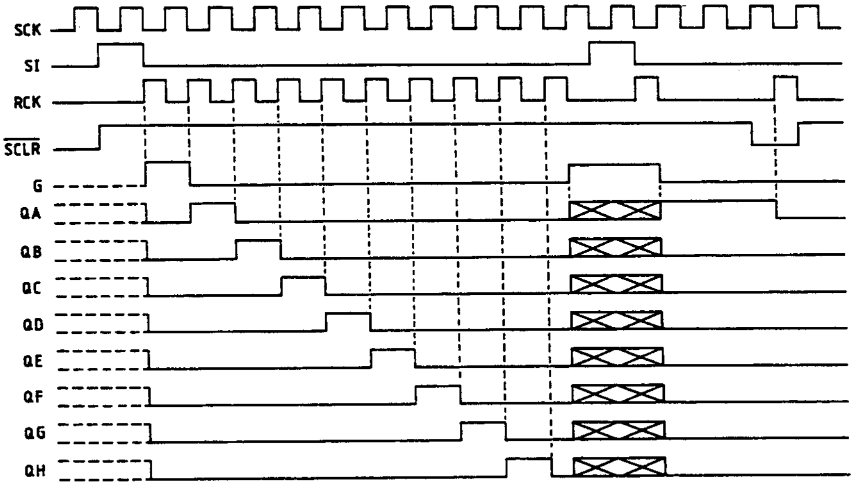
Pin No. of TC9177	Symbol	I/O	Functions and Operations
1	V_{SS}		Power Supply -15V.
2	L-Loudness1		Terminal for Loudness (left).
3	L-Loudness2		Terminal for Loudness (left).
4	L-out1	O	10dB step attenuator output.
5	L-in1	I	10dB step attenuator input.
6	A GND		Ground.
7	L-in2	I	2dB step attenuator input (left).
8	L-out2	O	2dB step attenuator output (left).
9	GND		Ground.
10	CK	I	Clock input.
11	DATA	I	Serial data input is to decide the level of attenuation.
12	ST	I	Strobe input.
13	R-out2	O	2dB step attenuator output (Right).
14	R-in2	I	2dB step attenuator input (Right).
15	GND		Ground.
16	R-in1	I	10dB step attenuator input.
17	R-out1	O	10dB step attenuator output.
18	R-Loudness2		Terminal for Loudness (Right).
19	R-Loudness1		Terminal for Loudness (Right).
20	V_{DD}		Power Supply +15V.

■ IC401 : TC74HC595AP (Shift Register)


(DOLBY or DAP) QB 1
(CENTER) QC 2
(WIDE) QD 3
(NORMAL) QE 4
(NOISE) QF 5
(NOISE-1) QG 6
(NOISE-2) QH 7
GND 8
16 Vcc
15 QA (MC/MM)
14 SI (DATA-1)
13 $\overline{G}$
12 RCK
11 SCK (CLK-1)
10 $\overline{SCLR}$ (HOLD)
9 QH'
Top view


SERIAL IN ⑭
SCK ⑪
$\overline{SCLR}$ ⑩
RCK ⑫
$\overline{G}$ ⑬
8-Stage Shift Register
8-Bit Storage Register
3-State Buffer
SERIAL OUT ⑨ QH'
⑯ Vcc
⑧ GND
⑮ ① ② ③ ④ ⑤ ⑥ ⑦
QA QB QC QD QE QF QG QH
Parallel Outputs

Timing Diagram (TC74HC595AP)



Truth Table

Inputs					Function
SI	SCK	$\overline{SCLR}$	RCK	$\overline{G}$	
X	X	X	X	H	Output (QA~QH) disabled
X	X	X	X	L	Output (QA~QH) enabled
X	X	L	X	X	Shift register is cleared
L	↑	H	X	X	The primary stage of the shift register is low; Each of others stores the data of the previous stage.
H	↑	H	X	X	The primary stage of the shift register is high; Each of others stores the data of the previous stage.
X	↓	H	X	X	Shift register does not change.
X	X	X	↑	X	The data in the shift register is stored in the storage register.
X	X	X	↓	X	Storage register does not change.

■ IC421 : LC6514B-4131 (Tuner Control & FL Driver)

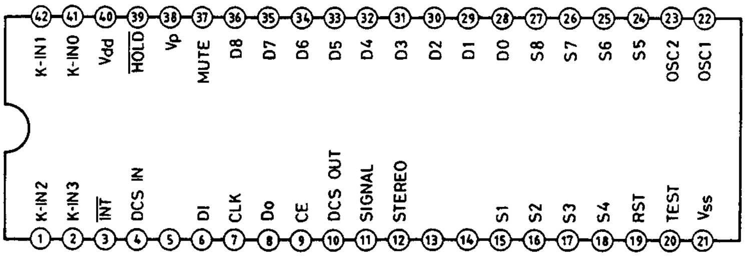

42 K-IN1
41 K-IN0
40 Vdd
39 $\overline{\text{HOLD}}$
38 Vp
37 MUTE
36 D8
35 D7
34 D6
33 D5
32 D4
31 D3
30 D2
29 D1
28 D0
27 S8
26 S7
25 S6
24 S5
23 OSC2
22 OSC1
1 K-IN2
2 K-IN3
3 $\overline{\text{INT}}$
4 DCS IN
5
6 DI
7 CLK
8 Do
9 CE
10 DCS OUT
11 SIGNAL
12 STEREO
13
14
15 S1
16 S2
17 S3
18 S4
19 RST
20 TEST
21 Vss

Table of Key Matrix

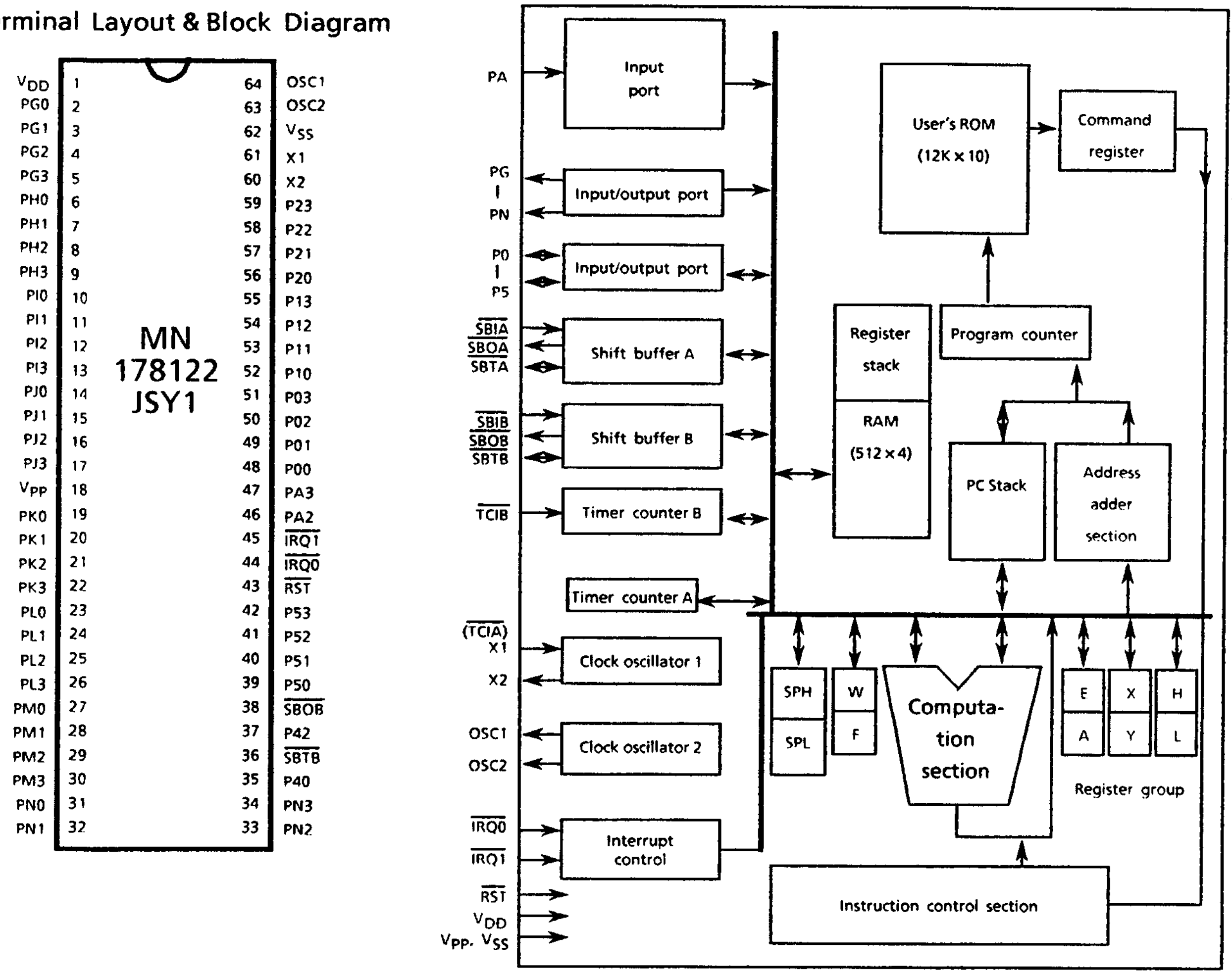
Pin No. IN Digit	41 (K-IN0)	42 (K-IN1)	1 (K-IN2)	2 (K-IN3)
28 (D0)		MEMORY	AUTO MEMORY	
29 (D1)	FM	AM		AUTO MODE
30 (D2)	TUNING UP	TUNING DOWN		
31 (D3)	1	2	3	4
32 (D4)	5	6	7	8
33 (D5)	9	10	+10	PRESET SCAN

Pin No.	Name	I/O	Functions
1	K-IN2	I	Key matrix input.
2	K-IN3	I	Key matrix input.
3	$\overline{\text{INT}}$	I	Not used. (Connect to V dd.)
4	DCS-IN	I	COMPU-LINK signal input.
5	NC	-	Non connection.
6	DI	I	Serial data input from PLL (IC102: LC7218).
7	CLK	0	Serial clock output to PLL (IC102: LC7218).
8	DO	0	Serial data output to PLL (IC102: LC7218).
9	CE	0	Chip enable output to PLL (IC102: LC7218).
10	DCS-OUT	0	COMPU-LINK signal output.
11	$\overline{\text{SIGNAL}}$	I	Broadcast receiving when "L" is input.
12	$\overline{\text{STEREO}}$	I	FM stereo reception when "L" is input.
13,14	NC	-	Non connection.
15~18	S1~S4	0	Segment drive for FL display.
19	$\overline{\text{RST}}$	I	Reset signal input.
20	TEST	I	Not used. (Connect to V ss.)
21	V ss	-	Connect to GND.
22	OSC1	-	1MHz Resonator.
23	OSC2	-	1MHz Resonator.
24~27	S5~S8	0	Segment drive for FL display.
28~33	D0~D5	0	Digit drive for FL display and key matrix output.
34	D6	0	Digit drive for FL display.
35	D7	0	Key matrix output.
36	D8	0	Key matrix output.
37	MUTE	0	Muting output.
38	V p	-	-39 V.
39	$\overline{\text{HOLD}}$	I	Hold signal input.
40	V dd	-	+5 V.
41	K-IN0	I	Key matrix input.
42	K-IN1	I	Key matrix input.

■ IC441 : MN178122JSY1 (DAP Control)

1. Functions
   Control the DAP system of the RX-1010.

2. Terminal Layout & Block Diagram


MN 178122 JSY1
VDD 1
PG0 2
PG1 3
PG2 4
PG3 5
PH0 6
PH1 7
PH2 8
PH3 9
PI0 10
PI1 11
PI2 12
PI3 13
PJ0 14
PJ1 15
PJ2 16
PJ3 17
VPP 18
PK0 19
PK1 20
PK2 21
PK3 22
PL0 23
PL1 24
PL2 25
PL3 26
PM0 27
PM1 28
PM2 29
PM3 30
PN0 31
PN1 32
64 OSC1
63 OSC2
62 VSS
61 X1
60 X2
59 P23
58 P22
57 P21
56 P20
55 P13
54 P12
53 P11
52 P10
51 P03
50 P02
49 P01
48 P00
47 PA3
46 PA2
45 IRQ1
44 IRQ0
43 RST
42 P53
41 P52
40 P51
39 P50
38 SBOB
37 P42
36 SBTB
35 P40
34 PN3
33 PN2
PA
Input port
PG I PN
Input/output port
P0 I P5
Input/output port
SBIA
SBOA
SBTA
Shift buffer A
SBIB
SBOB
SBTB
Shift buffer B
TCIB
Timer counter B
Timer counter A
(TCIA) X1
X2
Clock oscillator 1
OSC1
OSC2
Clock oscillator 2
IRQ0
IRQ1
Interrupt control
RST
VDD
VPP, VSS
User's ROM (12K x 10)
Command register
Register stack
RAM (512 x 4)
Program counter
PC Stack
Address adder section
SPH
SPL
W
F
Computa-tion section
E
A
X
Y
H
L
Register group
Instruction control section

3. FL Connection

FL Pin No.	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46
Pin Function	D1	D2	S8	S4	S3	S5	S7	S6	S2	S1	S16	S9	S10	S14	S15	S11	S13	S12
IC441 Pin No.	2	3,4 5,6	26	22	21	23	25	24	20	19	7,8 9,17	10	11	15	16	12	14	13

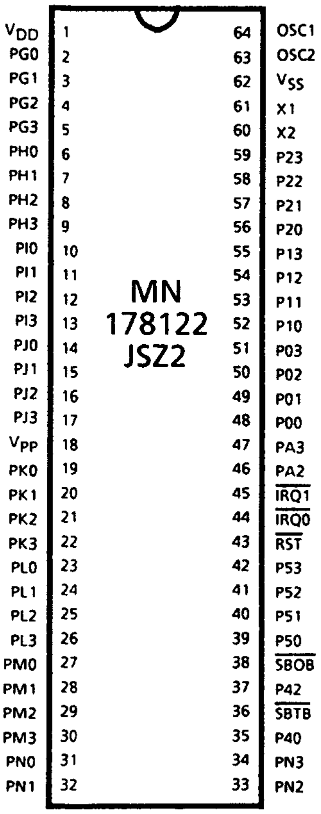
IC441:MN178122JSY1 (DAP Control)

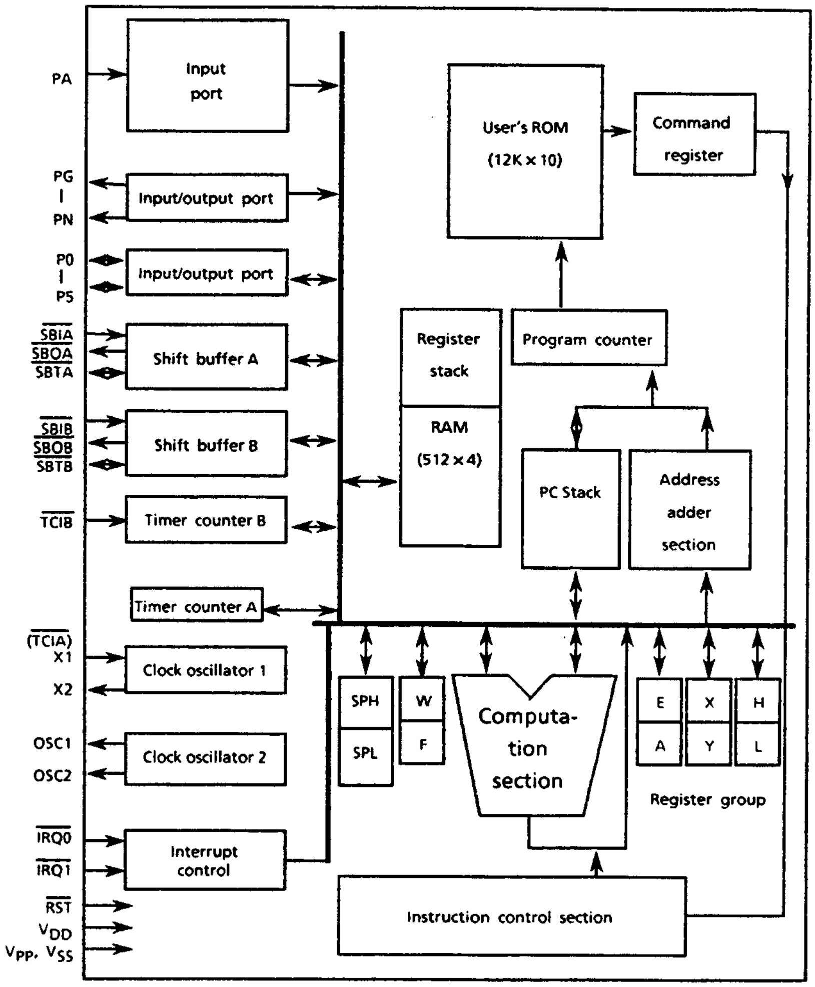
Pin No.	Name	Function	I/O	Description
1	V dd	+5V	-	Positive power supply.
2	PG0	D1	O	FL digit driver.
3~5	PG1~PG3	D2	O	FL digit driver.
6	PH0	D2	O	FL digit driver.
7~9	PH1~PH3	S16	O	FL segment driver.
10	PI0	S9	O	FL segment driver.
11	PI1	S10	O	FL segment driver.
12	PI2	S11	O	FL segment driver.
13	PI3	S12	O	FL segment driver.
14	PJ0	S13	O	FL segment driver.
15	PJ1	S14	O	FL segment driver.
16	PJ2	S15	O	FL segment driver.
17	PJ3	S16	O	FL segment driver.
18	V pp	-33V	-	Negative power supply.
19	PK0	S1	O	FL segment driver.
20	PK1	S2	O	FL segment driver.
21	PK2	S3	O	FL segment driver.
22	PK3	S4	O	FL segment driver.
23	PL0	S5	O	FL segment driver.
24	PL1	S6	O	FL segment driver.
25	PL2	S7	O	FL segment driver.
26	PL3	S8	O	FL segment driver.
27~30	PM0~PM3	--	-	Not used.
31~34	PN0~PN3	--	-	Not used.
35	P40	--	-	Not used.
36	SBTB	CLK-2 IN	I	DAP MODE input from IC461 (System Controller).
37	P42	DATA-2 IN	I	DAP MODE input from IC461 (System Controller).
38	SBOB	--	-	Not used.
39	P50	--	-	Not used.
40	P51	CLK-3 OUT	O	Control data output to IC605 (DAP Digital Processor).
41	P52	--	-	Not used.
42	P53	DATA-3 OUT	O	Control data output to IC605 (DAP Digital Processor).
43	$\overline{\text{RST}}$	$\overline{\text{RESET}}$ IN	I	Reset signal input.
44	$\overline{\text{IRQ0}}$	$\overline{\text{INH}}$ IN	I	Power ON /OFF detection.
45	IRQ1	DAP REQUEST	I	DAP MODE input request from IC461 (System Controller).
46	PA2	--	-	Not used. Connect to GND.
47	PA3	TEST	I	"L"=TEST MODE.
48	P00	PERIOD	O	PERIOD output to IC605 (DAP Digital Processor).
49	P01	BUSY	O	BUSY output to IC461 (System Controller).
50	P02	--	-	Not used.
51	P03	DAP POWER	O	Power supply ON / OFF to IC605 (DAP Digital Processor).
52	P10	F1	O	DAP WALL type control.
53	P11	F2	O	DAP WALL type control.
54	P12	--	-	Not used.
55	P13	MUTE	O	DAP MUTE.
56~59	P20~P23	--	-	Not used.
60	X2	--	-	Not used.
61	X1	--	-	Not used. Connect to GND.
62	V ss	GND	-	Connect to GND.
63	OSC2	7.2MHz	O	Connect to ceramic resonator
64	OSC1	7.2MHz	I	Connect to ceramic resonator

	WALL-1	2	3
F1	L	H	L
F2	L	L	H

IC461 : MN178122JSZ2 (System Control)

1. Functions
   Control the main system of the RX-1010.
2. Terminal Layout & Block Diagram


MN
178122
JSZ2
VDD 1
PG0 2
PG1 3
PG2 4
PG3 5
PH0 6
PH1 7
PH2 8
PH3 9
PI0 10
PI1 11
PI2 12
PI3 13
PJ0 14
PJ1 15
PJ2 16
PJ3 17
VPP 18
PK0 19
PK1 20
PK2 21
PK3 22
PL0 23
PL1 24
PL2 25
PL3 26
PM0 27
PM1 28
PM2 29
PM3 30
PN0 31
PN1 32
64 OSC1
63 OSC2
62 VSS
61 X1
60 X2
59 P23
58 P22
57 P21
56 P20
55 P13
54 P12
53 P11
52 P10
51 P03
50 P02
49 P01
48 P00
47 PA3
46 PA2
45 IRQ1
44 IRQ0
43 RST
42 P53
41 P52
40 P51
39 P50
38 SBOB
37 P42
36 SBTB
35 P40
34 PN3
33 PN2


PA
Input port
PG
PN
Input/output port
P0
P5
Input/output port
SBIA
SBOA
SBTA
Shift buffer A
SBIB
SBOB
SBTB
Shift buffer B
TCIB
Timer counter B
Timer counter A
(TCIA)
X1
X2
Clock oscillator 1
OSC1
OSC2
Clock oscillator 2
IRQ0
IRQ1
Interrupt control
RST
VDD
VPP, VSS
User's ROM (12K × 10)
Command register
Register stack
RAM (512 × 4)
Program counter
PC Stack
Address adder section
SPH
SPL
W
F
Computa-tion section
E
A
X
Y
H
L
Register group
Instruction control section

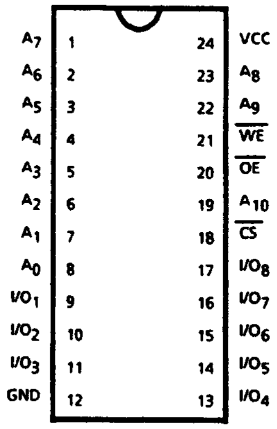
3. Table of Key Matrix

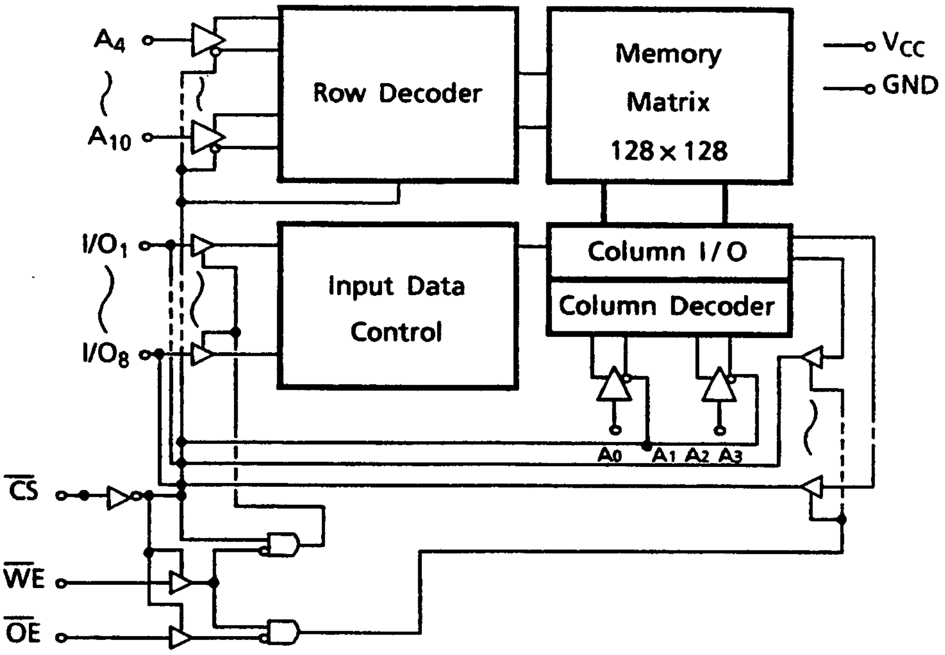
Pin No. IN OUT	19 (PK0)	20 (PK1)	21 (PK2)	22 (PK3)	23 (PL0)	24 (PL1)	25 (PL2)	26 (PL3)
48 (P00)	POWER	LOUD NESS	TAPE 1 MONITOR	MUTE	VOL. DOWN	VOL. UP		
49 (P01)	SEA ON/OFF	SEA/DAP REC	SEA PRESET(−)	SEA PRESET(+)	REAR (−)	REAR (+)		
50 (P02)	SEA FLAT	SEA REVERSE	SEA LEVEL(−)	SEA LEVEL(+)	CENTER (−)	CENTER (+)		
51 (P03)	SEA DISPLAY	SEA MEMORY	SEA FREQ.(−)	SEA FREQ.(+)	BALANCE (R)	BALANCE (L)		
52 (P10)	VIDEO	VCR 1	VCR 2	PHONO	CD	DAT	TAPE 1	TAPE 2 MONITOR
53 (P11)	DOLBY PRO LOGIC ON/OFF	DELAY	CENTER	TEST	CHARACTOR	CHARACTOR (−)	CHARACTOR (+)	ENTER
54 (P12)				MM/MC	CSRP TEST	CSRP MEMORY	CSRP	SOUND SELECTOR
55 (P13)	DAP	DAP MODE	SIZE	LIVE	WALL	DAP LEVEL (−)	DAP LEVEL (+)	

IC461：MN178122JSZ2 (System Control)

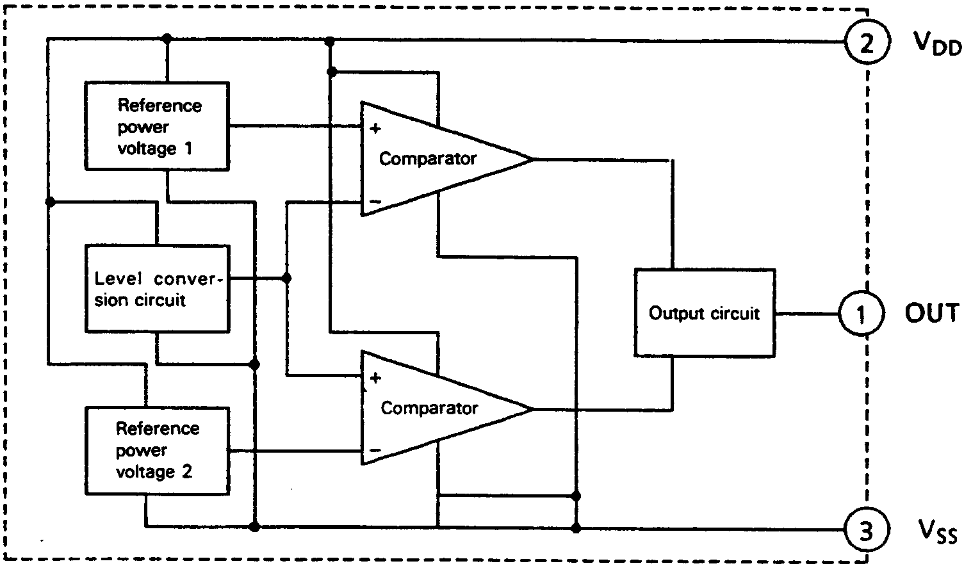
Pin No.	Name	Function	I/O	Description
1	V dd	+5 V	-	
2	PG0	RM OUT	0	Remote-control LED lights.
3	PG1	DCS OUT	0	
4	PG2	SEA CLK	0	LC7522
5	PG3	SEA DATA	0	LC7522
6	PH0		0	Not used
7	PH1	TUNER $\overline{\text{MUTE}}$	0	"H" at TUNER, "L" at other source.
8	PH2	S.RAM $\overline{\text{WE}}$	0	
9	PH3	Ao	0	YM3428 (Digital Delay) Control.
10	PI0	STB1	0	Main volume
11	PI1	STB2	0	Rear level
12	PI2	STB3	0	Center level
13	PI3	STB4	0	DAP volume
14	PJ0	CLK2	0	MSC7112
15	PJ1	DATA2	0	MSC7112
16	PJ2	LOAD	0	MSC7112
17	PJ3	RCK	0	TC74HC595AP
18	V pp	GND	-	
19~22	PK0 ~ PK3	Key in 0 ~ Key in 3	I	
23~26	PL0 ~ PL3	Key in 4 ~ Key in 7	I	
27~30	PM0 ~ PM3	S.RAM I/O 1 ~ 4	I/O	
31~34	PN0 ~ PN3	S.RAM I/O 5 ~ 8	I/O	
35	P40	TEST	I	"L" = TEST MODE
36	$\overline{\text{SBTB}}$	$\overline{\text{CLK1}}$	0	TC9162/63/64/76/77, YM3428, TC74HC595AP
37	P42	POWER OFF	I	Power OFF at "L".
38	$\overline{\text{SBOB}}$	$\overline{\text{DATA1}}$	0	TC9162/63/64/76/77, YM3428, TC74HC595AP
39	P50	POWER	0	
40	P51	HOLD OUT	0	
41	P52	RESET OUT	0	
42	P53		0	Not used.
43	$\overline{\text{RST}}$	$\overline{\text{RESET}}$ IN	I	
44	$\overline{\text{IRQ0}}$	$\overline{\text{RM}}$ IN	I	Remote-control input
45	$\overline{\text{IRQ1}}$	$\overline{\text{INH}}$ IN	I	Back-up detection
46	PA2	DCS IN	I	COMPU-LINK input
47	PA3		I	Not used.
48~51	P00 ~ P03	Key out 0 ~ 3	0	S. RAM Add. & key matrix out
52~55	P10 ~ P13	Key out 4 ~ 7	0	S. RAM Add. & key matrix out
56~58	P20 ~ P22	Key out 8 ~ 10	0	S. RAM Add. & key matrix out
59	P23	S.RAM CE	0	
60	X2	——	-	Not used.
61	X1	——	-	Connect to GND.
62	V ss	GND	-	
63	OSC2	7.2 MHz	-	
64	OSC1	7.2 MHz	-	

■ IC462 : LC3517BS-15 (Static RAM)

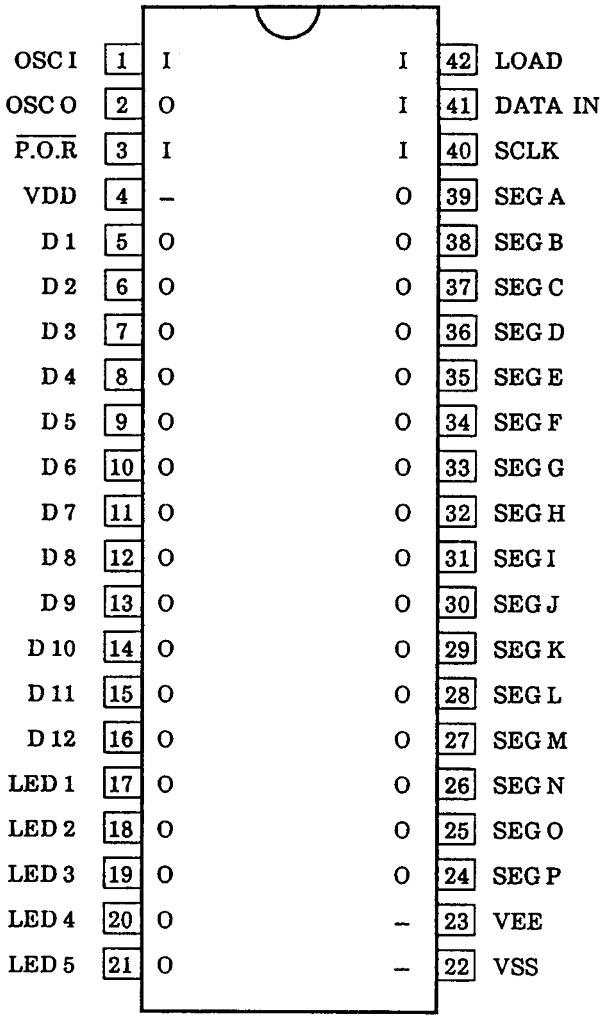

A7 1
A6 2
A5 3
A4 4
A3 5
A2 6
A1 7
A0 8
I/O1 9
I/O2 10
I/O3 11
GND 12
24 VCC
23 A8
22 A9
21 WE
20 OE
19 A10
18 CS
17 I/O8
16 I/O7
15 I/O6
14 I/O5
13 I/O4


A4
A10
Row Decoder
Memory Matrix 128×128
Vcc
GND
I/O1
I/O8
Input Data Control
Column I/O
Column Decoder
A0 A1 A2 A3
CS
WE
OE

■ IC491 : MN1281 (Reset IC)


Reference power voltage 1
Comparator
Level conversion circuit
Output circuit
Comparator
Reference power voltage 2
2 VDD
1 OUT
3 VSS

■ IC463 : MSC7112-01SS (Display Controller)

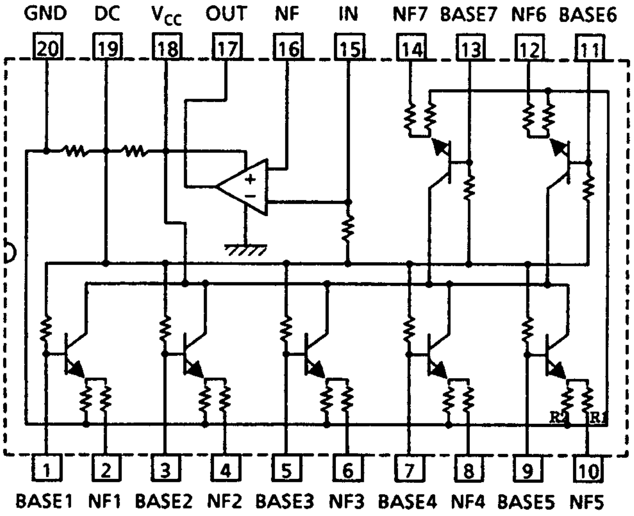

OSC I 1 I
OSC O 2 O
P.O.R 3 I
VDD 4 –
D 1 5 O
D 2 6 O
D 3 7 O
D 4 8 O
D 5 9 O
D 6 10 O
D 7 11 O
D 8 12 O
D 9 13 O
D 10 14 O
D 11 15 O
D 12 16 O
LED 1 17 O
LED 2 18 O
LED 3 19 O
LED 4 20 O
LED 5 21 O
I 42 LOAD
I 41 DATA IN
I 40 SCLK
O 39 SEG A
O 38 SEG B
O 37 SEG C
O 36 SEG D
O 35 SEG E
O 34 SEG F
O 33 SEG G
O 32 SEG H
O 31 SEG I
O 30 SEG J
O 29 SEG K
O 28 SEG L
O 27 SEG M
O 26 SEG N
O 25 SEG O
O 24 SEG P
– 23 VEE
– 22 VSS

No.	Symbol	I/O	Terminal Function
1 2	OSC I OSC O	I O	Oscillation circuit input. When a resistor and capacitor are connected externally, they can form the oscillation circuit. C = 100 pF R = 27 kohms fosc ≒ 350 kHz ± 20 %
3	P.O.R.	I	Internal logic reset input when the power is turned ON. The 18-bit latch, duty cycle register, digit register, LED register and write/read address counter inside the ICs are all reset, and all the outputs SEG A ~ SEG P, LED 1 ~ LED 5 are turned OFF.
4 22 23	Vdd Vss Vee	- - -	Vdd - Vss : power supply for internal logic. Vdd - Vee : power supply for VF drive logic.
5 ⇩ 16	D1 ⇩ D12	O O	VF optical display drive output. Complementary output

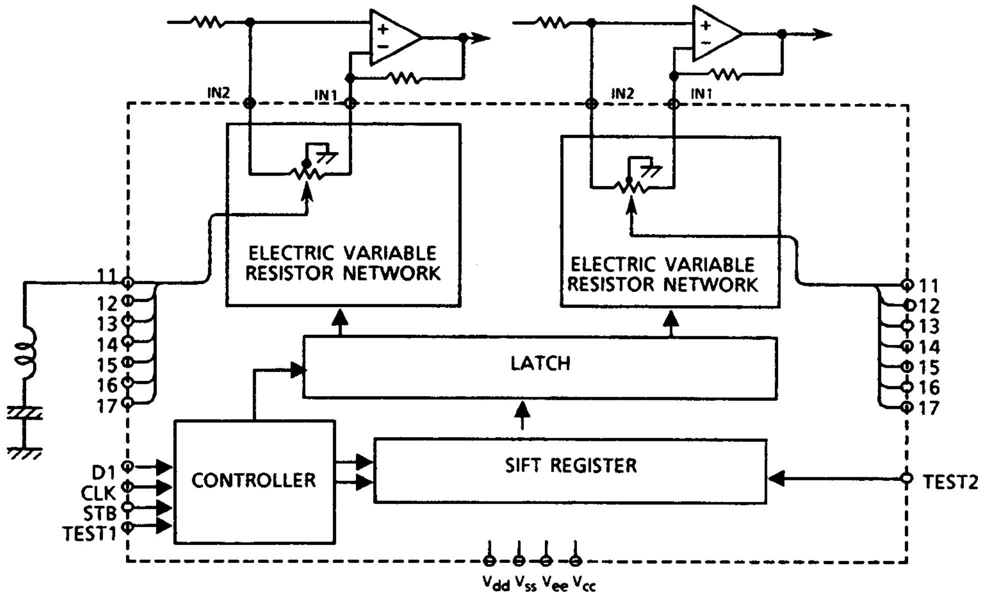
No.	Symbol	I/O	Terminal Function
17 ⇩ 21	LED 1 ⇩ LED 5	O O	LED drive output. Complementary output
24 ⇩ 39	SEG P ⇩ SEG A	O O	VF display drive output. Complementary output
40	S CLK	I	Shift clock of the shift register. Data is shifted at the trailing edge of SCLK.
41	DATA IN	I	Display data input of the shift register. Input from the MSB(positive logic).
42	LOAD	I	Latch clock of the display data. The latched data passes through when LOAD is high, and the data immediately before the high level is latched when it is low.

■ IC501, IC502 : LA3607S (7-element Electrical Inductor)

1. Functions
   It makes inductive characteristic instead of coil.

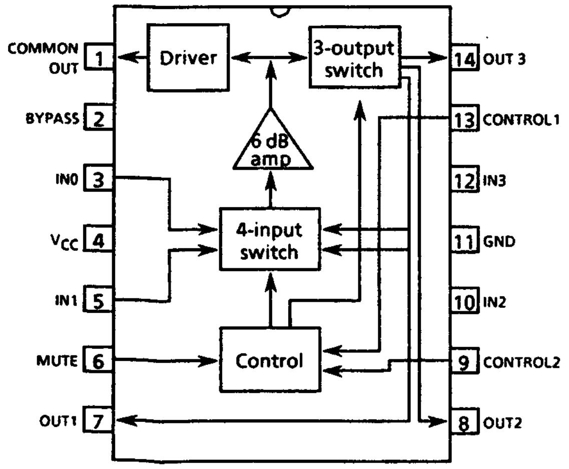

GND
DC
V_{CC}
OUT
NF
IN
NF7
BASE7
NF6
BASE6
20
19
18
17
16
15
14
13
12
11
R2
R1
1
2
3
4
5
6
7
8
9
10
BASE1
NF1
BASE2
NF2
BASE3
NF3
BASE4
NF4
BASE5
NF5

■ IC504 : LC7522 (Variable Resistor for SEA Control)


IN2
IN1
IN2
IN1
ELECTRIC VARIABLE RESISTOR NETWORK
ELECTRIC VARIABLE RESISTOR NETWORK
11
12
13
14
15
16
17
11
12
13
14
15
16
17
LATCH
CONTROLLER
SIFT REGISTER
D1
CLK
STB
TEST1
TEST2
Vdd
Vss
Vee
Vcc

■ IC261 : LA7951 (4input-4output Video Switch with 6dB Video Amp.)

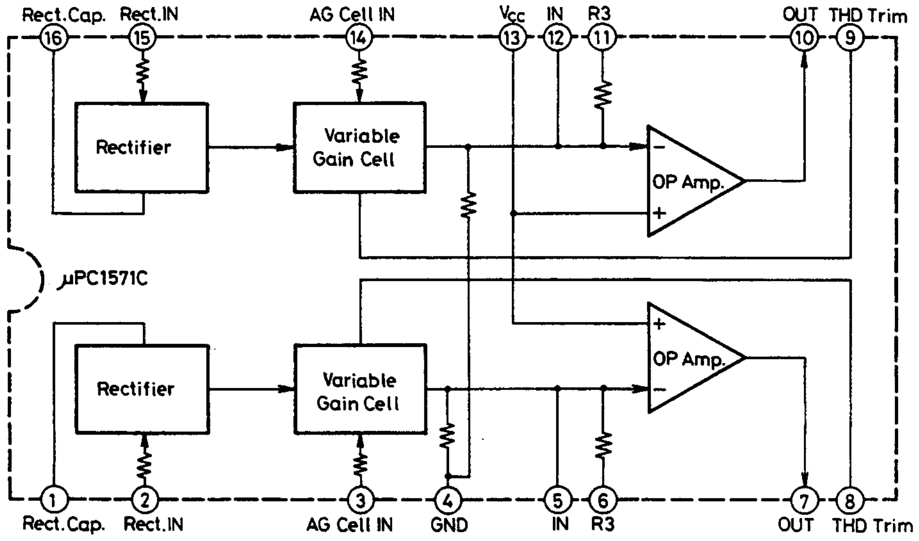
(1) Terminal Layout & Block Diagram


COMMON OUT
1
Driver
3-output switch
14
OUT 3
BYPASS
2
6 dB amp
13
CONTROL1
IN0
3
12
IN3
Vcc
4
4-input switch
11
GND
IN1
5
10
IN2
MUTE
6
Control
9
CONTROL2
OUT1
7
8
OUT2

(2) Logic Value table

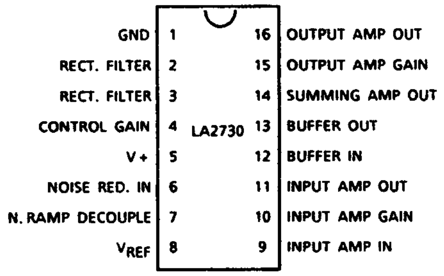
CONTROL			INPUT SIGNAL				OUTPUT SIGNAL			
MUTE (pin6)	1 (pin13)	2 (pin9)	0 (pin3)	1 (pin5)	2 (pin10)	3 (pin12)	COMMON (pin1)	1 (pin7)	2 (pin8)	3 (pin14)
L	–	–	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
H	L	L	ON	OFF	OFF	OFF	ON	ON	ON	ON
H	L	H	OFF	ON	OFF	OFF	ON	OFF	ON	ON
H	H	L	OFF	OFF	ON	OFF	ON	ON	OFF	ON
H	H	H	OFF	OFF	OFF	ON	ON	ON	ON	OFF

■ IC675 : μPC1571C (Noise Reduction)


Rect.Cap.
Rect.IN
AG Cell IN
Vcc
IN
R3
OUT
THD Trim
16
15
14
13
12
11
10
9
Rectifier
Variable Gain Cell
OP Amp.
μPC1571C
Rectifier
Variable Gain Cell
OP Amp.
1
2
3
4
5
6
7
8
Rect.Cap.
Rect.IN
AG Cell IN
GND
IN
R3
OUT
THD Trim

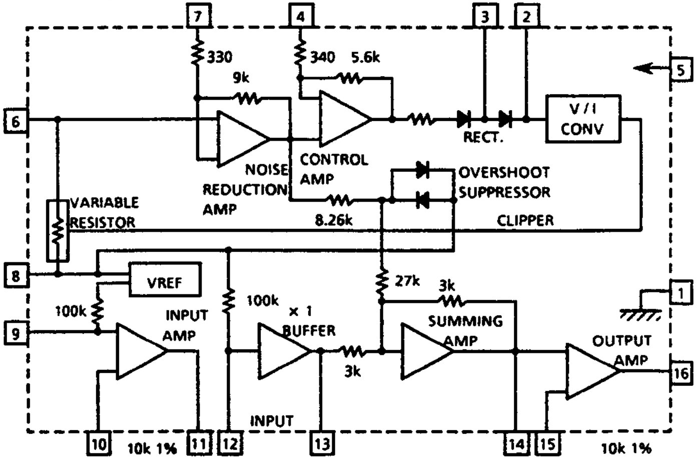
■ IC677 : LA2730 (Dolby "B" Noise Reduction)

1. Terminal Layout

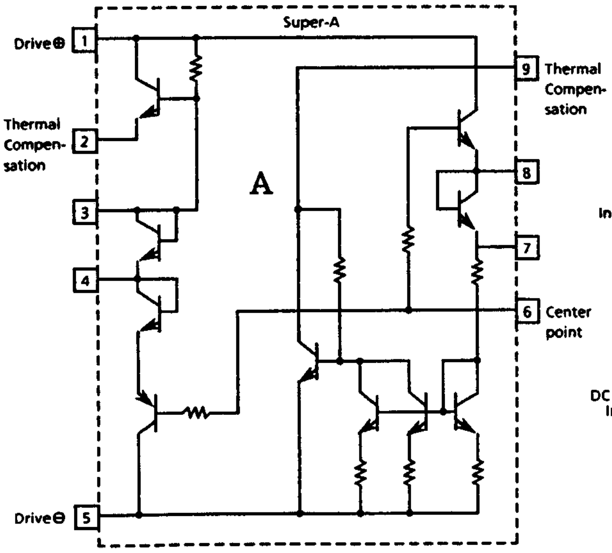


GND	1	16	OUTPUT AMP OUT
RECT. FILTER	2	15	OUTPUT AMP GAIN
RECT. FILTER	3	14	SUMMING AMP OUT
CONTROL GAIN	4	13	BUFFER OUT
V+	5	12	BUFFER IN
NOISE RED. IN	6	11	INPUT AMP OUT
N. RAMP DECOUPLE	7	10	INPUT AMP GAIN
V_{REF}	8	9	INPUT AMP IN

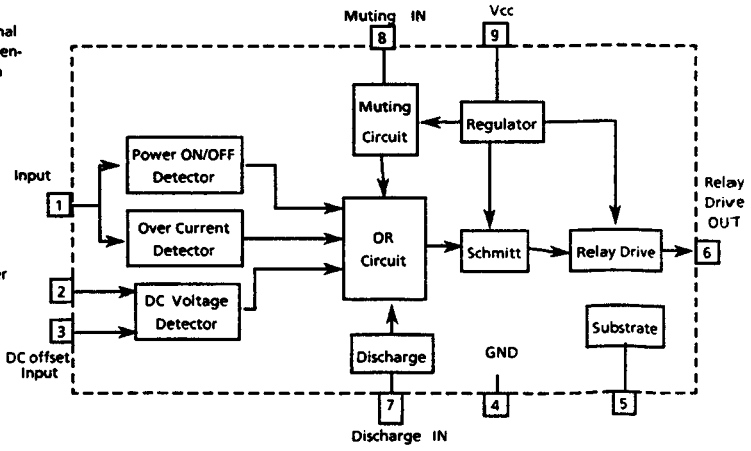
2. Block Diagram


7
4
3
2
5
6
330
340
5.6k
9k
RECT.
V/I CONV
NOISE REDUCTION AMP
CONTROL AMP
OVERSHOOT SUPPRESSOR
VARIABLE RESISTOR
8.26k
CLIPPER
8
VREF
27k
3k
100k
100k
x 1
9
INPUT AMP
BUFFER
SUMMING AMP
OUTPUT AMP
1
3k
16
INPUT
10
10k 1%
11
12
13
14
15
10k 1%

■ IC701, IC702 : VC5022-2 (Super-A Bias Controller)

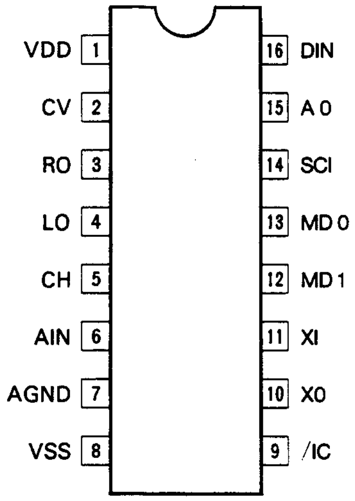

Super-A
Drive⊕
1
Thermal Compen-sation
2
3
4
A
Drive⊖
5
9
Thermal Compen-sation
8
7
6
Center point

■ IC901, IC941 : TA7317P (Protector for Amplifier)


Muting IN
8
Vcc
9
Muting Circuit
Regulator
Input
1
Power ON/OFF Detector
Over Current Detector
OR Circuit
Schmitt
Relay Drive
Relay Drive OUT
6
2
3
DC Voltage Detector
DC offset Input
Discharge
GND
Substrate
7
4
5
Discharge IN

■ IC676 : YM3428 (Digital Delay)

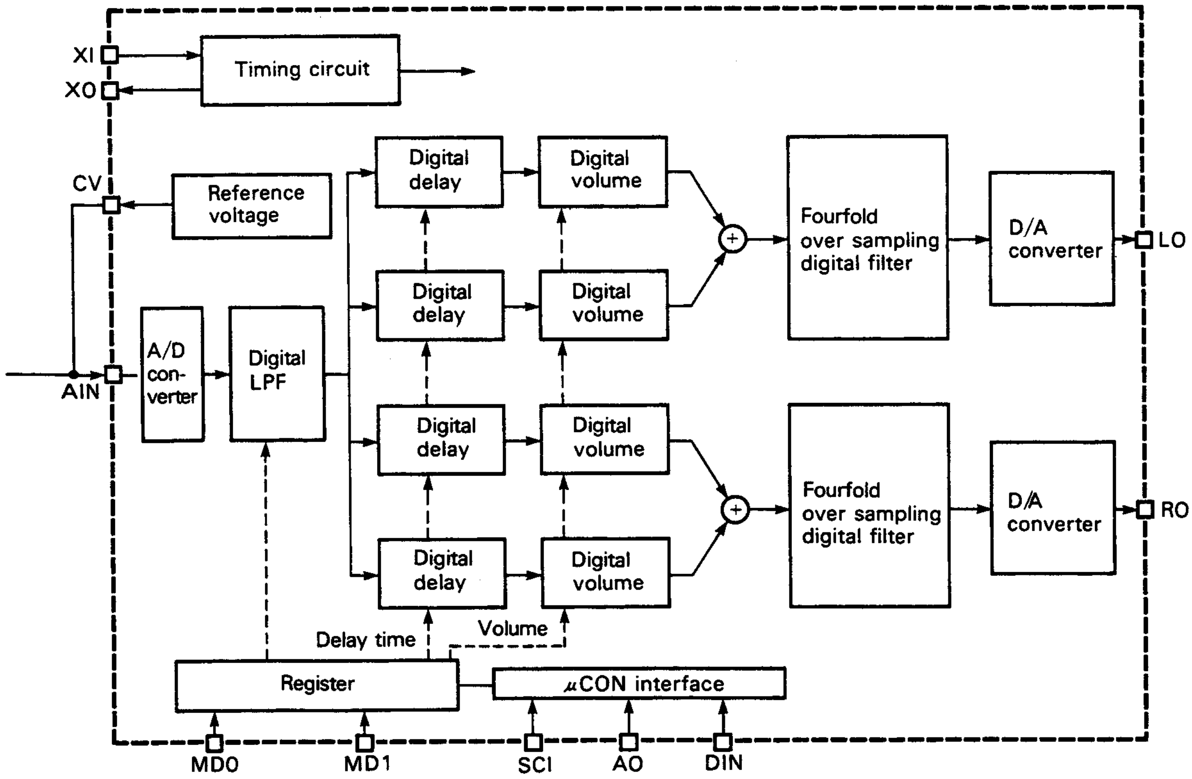
(1) Top View and pin Functions


VDD 1
CV 2
RO 3
LO 4
CH 5
AIN 6
AGND 7
VSS 8
16 DIN
15 A0
14 SCI
13 MD0
12 MD1
11 XI
10 XO
9 /IC

Pin No.	Pin Name	I/O	Pin Functions
1	VDD	—	Power supply (+5V)
2	CV	O	Reference voltage for A/D converter (+2.5V)
3	RO	O	R-ch output(D/A converted analogue signal)
4	LO	O	L-ch output(D/ A converted analogue signal)
5	CH	O	Used to connection an external capacitor for S/H
6	AIN	I	Analogue input (CV voltage is the reference)
7	AGND	—	Ground of A/D and D/A connectors (connect to VSS externally)
8	VSS	—	Digital system ground of this LSI
9	/IC	•I	Reset
10 11	XO XI	O I	Used to connect at crystal oscillator (XI is an input-pin for the clock signal when using an external clock)
12	MD1 MDO	•I •I	Mode designating pin
14	SCI	I	Data shift clock input when using a μcon.
15	AO	I	Address/Data identifying signal input when using an μcon.
16	DIN	I	Data input when using a μcon.

• Asterisked pin have a Built in pull-up register.

(2) Block Diagram


XI
XO
Timing circuit
CV
Reference voltage
AIN
A/D con-verter
Digital LPF
Digital delay
Digital volume
Digital delay
Digital volume
Digital delay
Digital volume
Digital delay
Digital volume
+
+
Fourfold over sampling digital filter
Fourfold over sampling digital filter
D/A converter
D/A converter
LO
RO
Delay time
Volume
Register
μCON interface
MDO
MD1
SCI
AO
DIN

(3) Description

As shown in the figure, the analogue input at AIN is sampled at the rate of 24.85 kHz and converted to the floating 14-bit digital signal through the A/D converter (14-bit floating type) and is input to the 1st. lowpass filter (IIR type) flow it. (This filter controls the cut-off frequency by inputting coefficients to A0, A1 and B1 registers with a conne--cted μcon,)

The digital delay unit employs RAMs and has four output taps. Each tap location is switched by DL0, DL1, DR0 and DR1 registers respectively.

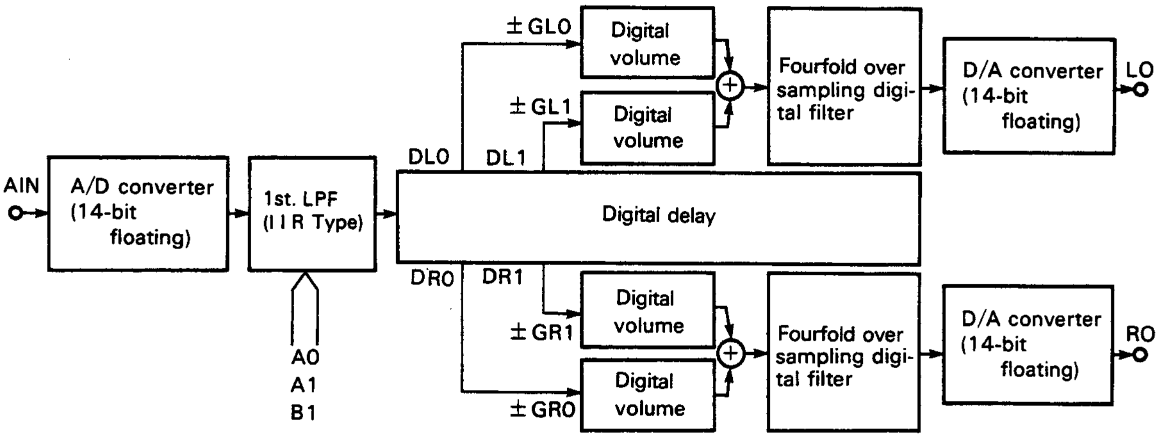
Each of the digital volume units performs the digital attenuation proress on each of the outputs from the taps with the coefficients of the volume register GL0, GL1, GR0 and GR1.

The adders perform the addition of L0 + L1 and R0 + R1 and they are input to the fourfold over sampling digital filters.

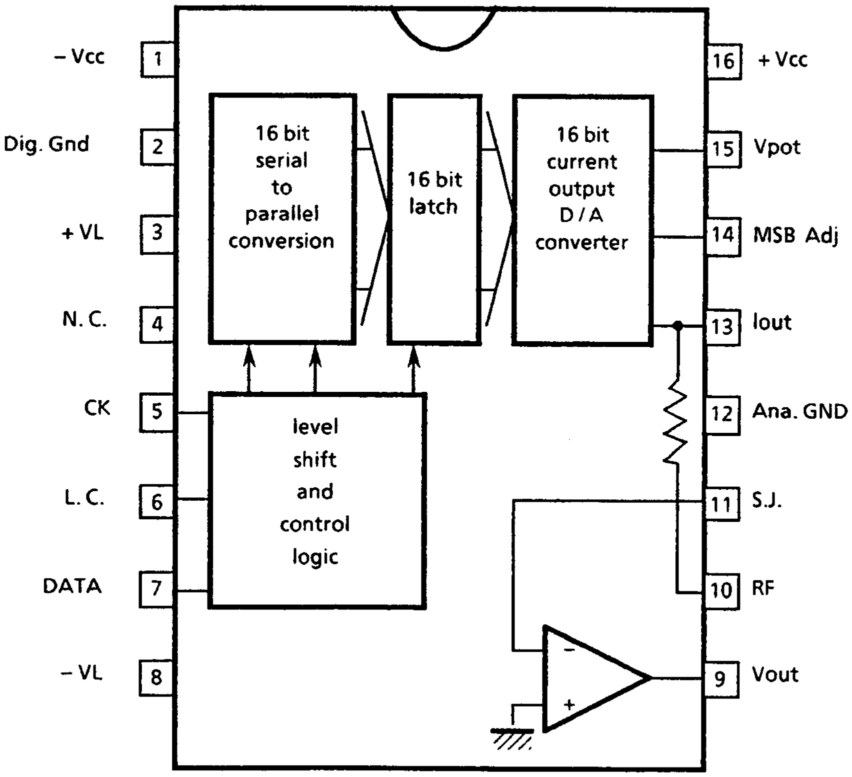
These circuits have a blocking band characteristic of −25dB and enable the externally connected lowpass filter to be simplified by attenuating the aliasing noises which appear at D/A conversion.

The sampling rate of the digital input to the D/A converters is 99.4 k Hz, a fourfold frequency of 24.85 kHz.

The principle of this digital processing system is that the programs stored in ROM perform the DSP process inside the LSI.


AIN
A/D converter (14-bit floating)
1st. LPF (I I R Type)
A0
A1
B1
Digital delay
DL0
DL1
DR0
DR1
±GL0
±GL1
±GR1
±GR0
Digital volume
Digital volume
Digital volume
Digital volume
Fourfold over sampling digital filter
Fourfold over sampling digital filter
D/A converter (14-bit floating)
D/A converter (14-bit floating)
L0
R0

■ IC621 : PCM56P (D/A Converter)


−Vcc
1
Dig. Gnd
2
+VL
3
N.C.
4
CK
5
L.C.
6
DATA
7
−VL
8
16 bit serial to parallel conversion
16 bit latch
16 bit current output D/A converter
level shift and control logic
16
+Vcc
15
Vpot
14
MSB Adj
13
Iout
12
Ana. GND
11
S.J.
10
RF
9
Vout
−
+

■ IC665 : LA2770 (Dolby Pro Logic Decorder)

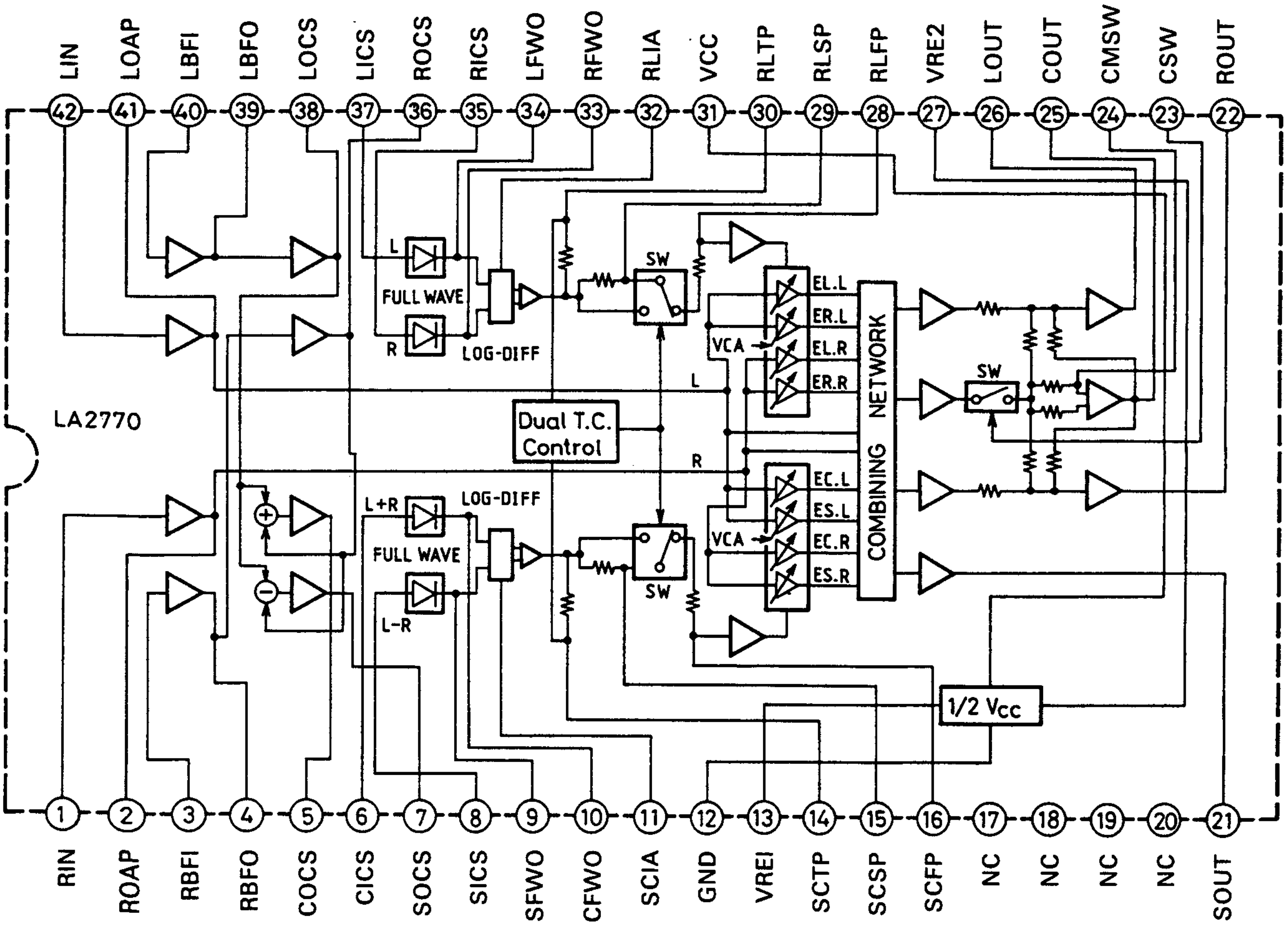
(1) General Description

The LA2770 is a monolithic integrated circuit designed for use in Dolby Pro Logic Surround System. It contains all features of Adaptive Matrix and Center Mode Control. The LA2770 accepts an Lt and Rt input pair and derives the L, C, R, S channels encoded in the Dolby Surround MP matrix. And it includes the functions of swithcable bass splitting, phantom center, and center defeat. A complete Dolby Pro Logic Surround decoder can be constructed using the LA2770 and the following circuits : An input balance control, a noise sequencer, a delay line, a 7kHz low-pass filter, a modified Dolby NR decoder, and output master level control.

(2) Function

- Adaptive Matrix;
  Input buffer, band-pass filter, full-wave rectifier, log-difference amplifier, threshold switch, dual time constant, polarity splitter, voltage controlled amplifier, and combining network.
- Center Mode Control;
  Center mode switching. (normal, phantom, wide)
  Center ON/OFF switching.
- Decode Mode Control;
  Switchable from L, C, R, S to L, C, R decode mode. (Surround channel OFF)

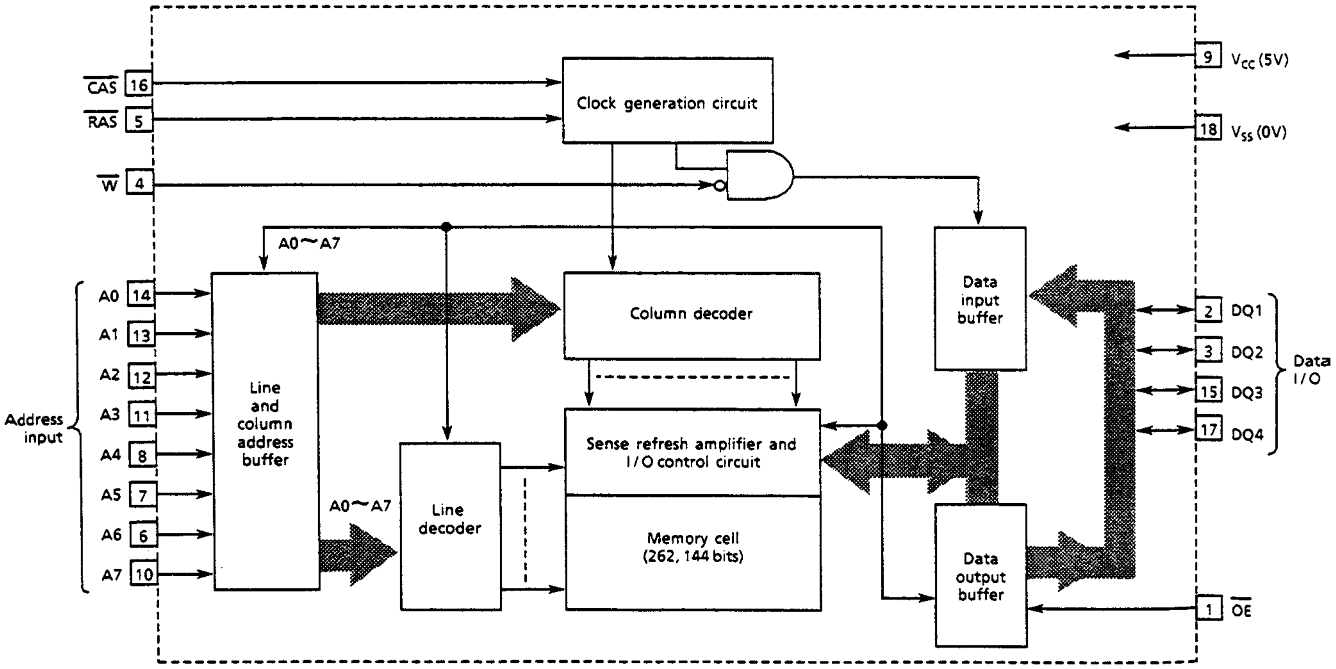
(3) Internal Block Diagram


LIN
LOAP
LBFI
LBFO
LOCS
LICS
ROCS
RICS
LFWO
RFWO
RLIA
VCC
RLTP
RLSP
RLFP
VRE2
LOUT
COUT
CMSW
CSW
ROUT
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
L
FULL WAVE
R
LOG-DIFF
SW
EL.L
ER.L
VCA
EL.R
ER.R
COMBINING NETWORK
SW
L
LA2770
Dual T.C.
Control
R
L+R
LOG-DIFF
FULL WAVE
L-R
SW
EC.L
ES.L
VCA
EC.R
ES.R
1/2 Vcc
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
RIN
ROAP
RBFI
RBFO
COCS
CICS
SOCS
SICS
SFWO
CFWO
SCIA
GND
VREI
SCTP
SCSP
SCFP
NC
NC
NC
NC
SOUT

IC665: LA2770 (Dolby Pro Logic Decoder)

Pin No.	Symbol	I/O	Functions
1	RIN	I	Right channel input.
2	ROAP	O	Right channel output for input amplifier.
3	RBFI	I	Right channel B.P.F. input for control signal.
4	RBFO	O	Right channel B.P.F. output for control signal.
5	COCS	O	Center channel output for control signal.
6	CICS	I	Center channel input for control signal.
7	SOCS	O	Surround channel output for control signal.
8	SICS	I	Surround channel input for control signal.
9	SFWO	O	Surround channel full-wave output.
10	CFWO	O	Center channel full-wave output.
11	SCIA	-	Surround / Center input circuit for log-difference amplifier.
12	GND	-	Ground
13	VRE1	-	Vref (1/2 Vcc)
14	SCTP	-	Surround / Center channel timing preset for dual time-constant.
15	SCSP	-	Surround / Center channel speed preset for time-constant.
16	SCFP	-	Surround / Center channel frequency preset for time-constant.
17~20	NC	-	Non connection.
21	SOUT	O	Surround channel output.
22	ROUT	O	Right channel output.
23	CSW	-	Center channel ON / OFF switch. (GND → OFF)
24	CMSW	-	Center channel Mode switch. (ON / PHANTOM / WIDE)
25	COUT	O	Center channel output.
26	LOUT	O	Left channel output.
27	VRE2	-	1/2 Vcc (AC GND)
28	RLFP	-	Right / Left channel frequency preset for time-constant.
29	RLSP	-	Right / Left channel speed preset for time-constant.
30	RLTP	-	Right / Left channel timing preset for dual time-constant.
31	VCC	-	Vcc
32	RLIA	-	Right/Left channel input circuit for log-difference amplifier.
33	RFWO	O	Right channel full-wave output.
34	LFWO	O	Left channel full-wave output.
35	RICS	I	Right channel input for control signal.
36	ROCS	O	Right channel output for control signal.
37	LICS	I	Left channel input for control signal.
38	LOCS	O	Left channel output for control signal.
39	LBFO	O	Left channel B.P.F. output for control signal.
40	LBFI	I	Left channel B.P.F. input for control signal.
41	LOAP	O	Left channel output for input amplifier.
42	LIN	I	Left channel input.

■ IC606, 607 : TMM41464AP-12 (65536 word by 4-bit D-RAM)



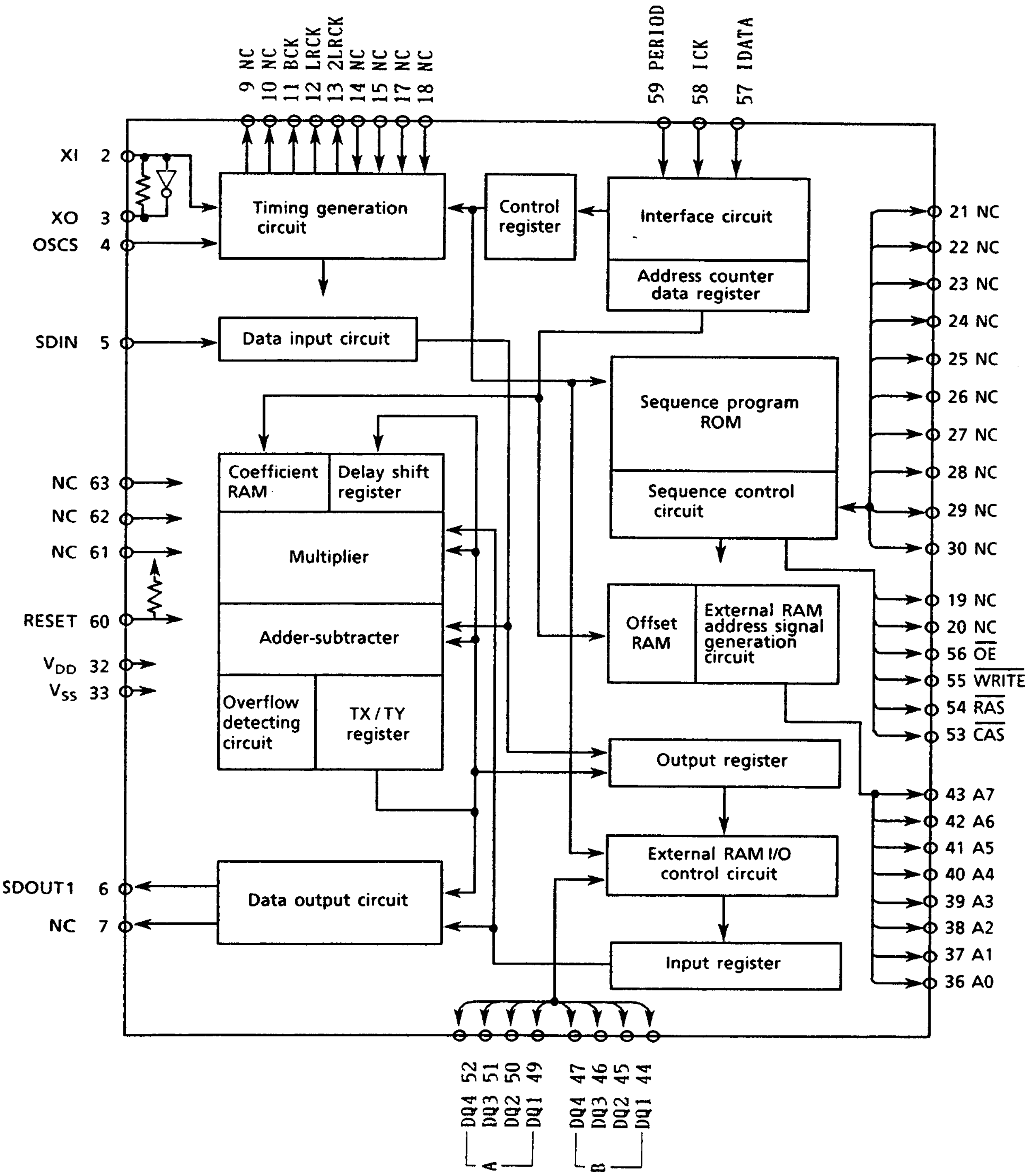
CAS 16
RAS 5
W 4
Clock generation circuit
9 Vcc (5V)
18 Vss (0V)
A0~A7
Address input
A0 14
A1 13
A2 12
A3 11
A4 8
A5 7
A6 6
A7 10
Line and column address buffer
Column decoder
Data input buffer
Sense refresh amplifier and I/O control circuit
A0~A7
Line decoder
Memory cell (262, 144 bits)
Data output buffer
2 DQ1
3 DQ2
15 DQ3
17 DQ4
Data I/O
1 OE

■ IC605 : VC4097-008 (Digital Signal Processor)

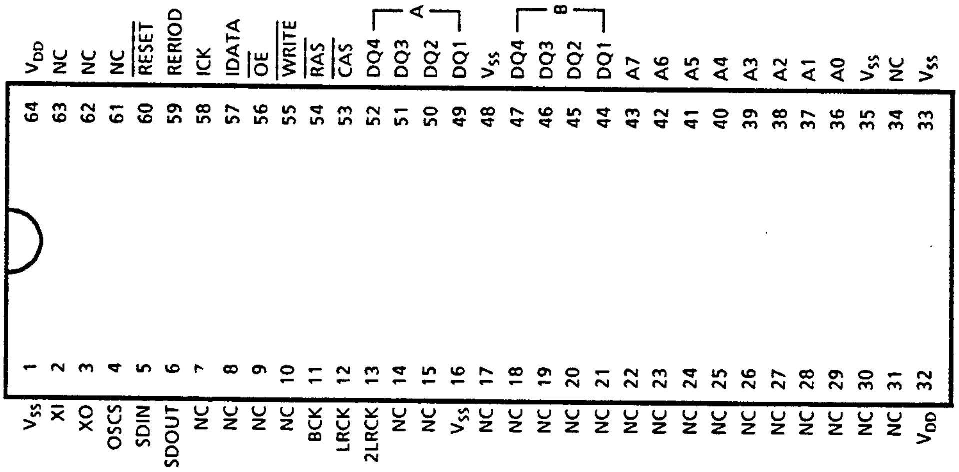
(1) General :

The VC4097 is a single chip digital acoustic signal processor for sound-field control. It provides many advantages, such as, highly-precise digital delay with high quality that cannot be performed by an analog delay system, read/write of digital sound field data, various audio-visual (AV) digital surround effects with high-grade thruput simultaneously executing arithmetic operations, and simulation of the nutural reverberation of a hall, stage, stadium, etc., by folding the initial reflected sound and calculating reverberation.

(2) Internal Block Diagram


9 NC
10 NC
11 BCK
12 LRCK
13 2LRCK
14 NC
15 NC
17 NC
18 NC
59 PERIOD
58 ICK
57 IDATA
XI 2
XO 3
OSCS 4
SDIN 5
NC 63
NC 62
NC 61
RESET 60
V_{DD} 32
V_{SS} 33
SDOUT1 6
NC 7
Timing generation circuit
Control register
Interface circuit
Address counter data register
Data input circuit
Sequence program ROM
Sequence control circuit
Coefficient RAM
Delay shift register
Multiplier
Adder-subtracter
Overflow detecting circuit
TX / TY register
Offset RAM
External RAM address signal generation circuit
Output register
External RAM I/O control circuit
Input register
Data output circuit
21 NC
22 NC
23 NC
24 NC
25 NC
26 NC
27 NC
28 NC
29 NC
30 NC
19 NC
20 NC
56 OE
55 WRITE
54 RAS
53 CAS
43 A7
42 A6
41 A5
40 A4
39 A3
38 A2
37 A1
36 A0
DQ4 52
DQ3 51
DQ2 50
DQ1 49
DQ4 47
DQ3 46
DQ2 45
DQ1 44
A
B

(3) Terminal Layout

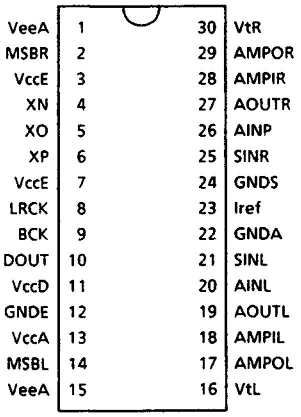

V_{DD} 64
NC 63
NC 62
NC 61
$\overline{\text{RESET}}$ 60
$\overline{\text{RERIOD}}$ 59
ICK 58
IDATA 57
$\overline{\text{OE}}$ 56
$\overline{\text{WRITE}}$ 55
$\overline{\text{RAS}}$ 54
$\overline{\text{CAS}}$ 53
A
DQ4 52
DQ3 51
DQ2 50
DQ1 49
V_{SS} 48
B
DQ4 47
DQ3 46
DQ2 45
DQ1 44
A7 43
A6 42
A5 41
A4 40
A3 39
A2 38
A1 37
A0 36
V_{SS} 35
NC 34
V_{SS} 33
1 V_{SS}
2 XI
3 XO
4 OSCS
5 SDIN
6 SDOUT
7 NC
8 NC
9 NC
10 NC
11 BCK
12 LRCK
13 2LRCK
14 NC
15 NC
16 V_{SS}
17 NC
18 NC
19 NC
20 NC
21 NC
22 NC
23 NC
24 NC
25 NC
26 NC
27 NC
28 NC
29 NC
30 NC
31 NC
32 V_{DD}

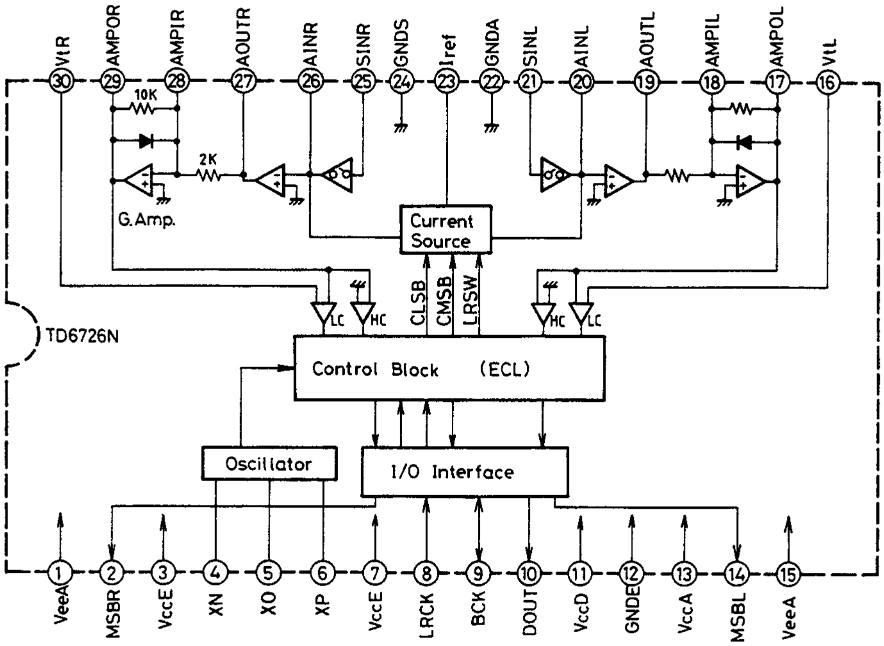
(4) Terminal Functions

IC605：VC4097－008(Digital Signal Processor)

Pin No.	Name	I/O	Functions
1	Vss	-	Ground terminal
2 3	Xi Xo	I O	Connects to crystal oscillator or provides an external clock signal to Xi terminal.
4	OSCS	I	Oscillator/external clock frequency switching terminal.
5	SDIN	I	L-ch and R-ch serial data input terminal.
6	SDOUT	O	L-ch and R-ch serial data output terminal.
7~10	NC	-	Non connection.
11	BCK	O	Data shift clock output terminal for A/D and D/A converters.
12	LRCK	O	Channel clock output terminal for A/D and D/A converters.
13	2LRCK	O	Double LRCK frequency clock output terminal.
14,15	NC	-	Non connection.
16	Vss	-	Ground terminal
17~31	NC	-	Non connection.
32	Vdd	-	Power source terminal.
33	Vss	-	Ground terminal
34	NC	-	Non connection.
35	Vss	-	Ground terminal
36 ⇩ 43	A0 ⇩ A7	O O	External D-RAM address output terminal.
44 ⇩ 47	DQ1 ⇩ DQ4	I/O I/O	External D-RAM data I/O terminal. Only (44) to (47) pins are used in four-bit access mode.
48	Vss	-	Ground terminal
49 ⇩ 52	DQ1 ⇩ DQ4	I/O I/O	External D-RAM data I/O terminal.
53	$\overline{\text{CAS}}$	O	External D-RAM column address strobe output terminal.
54	$\overline{\text{RAS}}$	O	External D-RAM low address strobe output terminal.
55	$\overline{\text{WRITE}}$	O	External D-RAM read/write pulse output terminal.
56	$\overline{\text{OE}}$	O	External D-RAM enable pulse output terminal.
57	IDATA	I	Interface period pulse input terminal.
58	ICK	I	Interface clock input terminal.
59	$\overline{\text{PERIOD}}$	I	Interface period pulse input terminal.
60	$\overline{\text{RESET}}$	I	Reset signal input terminal.
61~63	NC	-	Non connection.
64	Vdd	-	Power source terminal.

■ IC604 : TD6726N (A/D Converter)


VeeA 1
MSBR 2
VccE 3
XN 4
XO 5
XP 6
VccE 7
LRCK 8
BCK 9
DOUT 10
VccD 11
GNDE 12
VccA 13
MSBL 14
VeeA 15
16 VtL
17 AMPOL
18 AMPIL
19 AOUTL
20 AINL
21 SINL
22 GNDA
23 Iref
24 GNDS
25 SINR
26 AINP
27 AOUTR
28 AMPIR
29 AMPOR
30 VtR

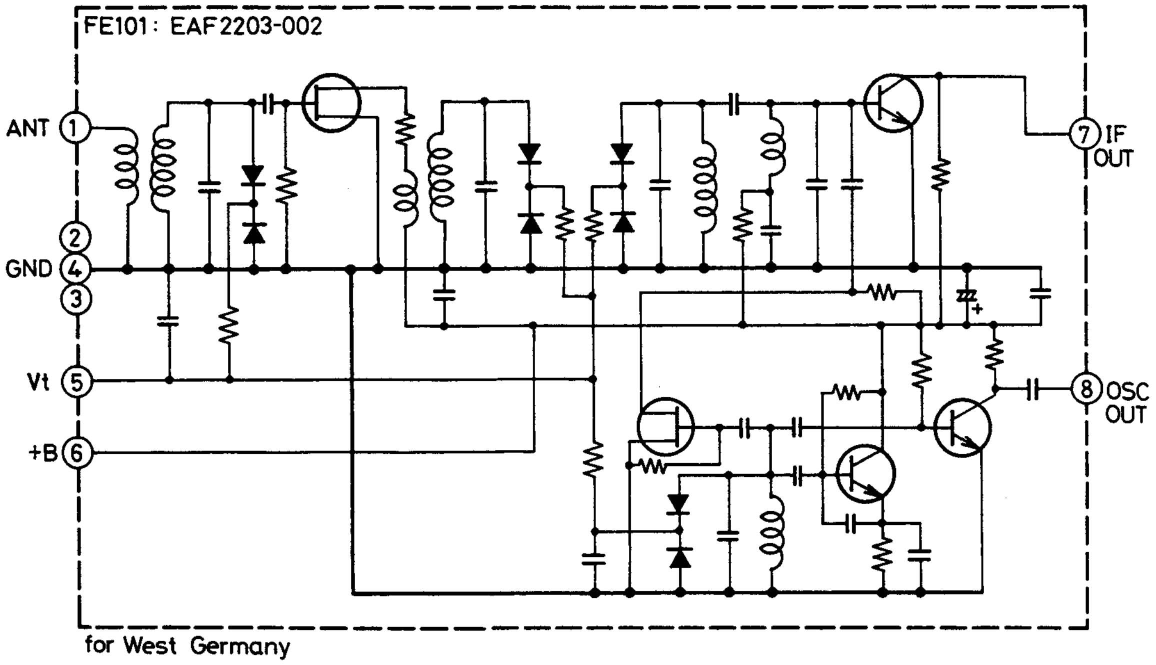

VtR 30
AMPOR 29
AMPIR 28
AOUTR 27
AINR 26
SINR 25
GNDS 24
Iref 23
GNDA 22
SINL 21
AINL 20
AOUTL 19
AMPIL 18
AMPOL 17
VtL 16
10K
2K
G.Amp.
Current Source
LC
HC
CLSB
CMSB
LRSW
TD6726N
Control Block (ECL)
Oscillator
I/O Interface
1 VeeA
2 MSBR
3 VccE
4 XN
5 XO
6 XP
7 VccE
8 LRCK
9 BCK
10 DOUT
11 VccD
12 GNDE
13 VccA
14 MSBL
15 VeeA

IC604:TD6726N (A/D Converter)

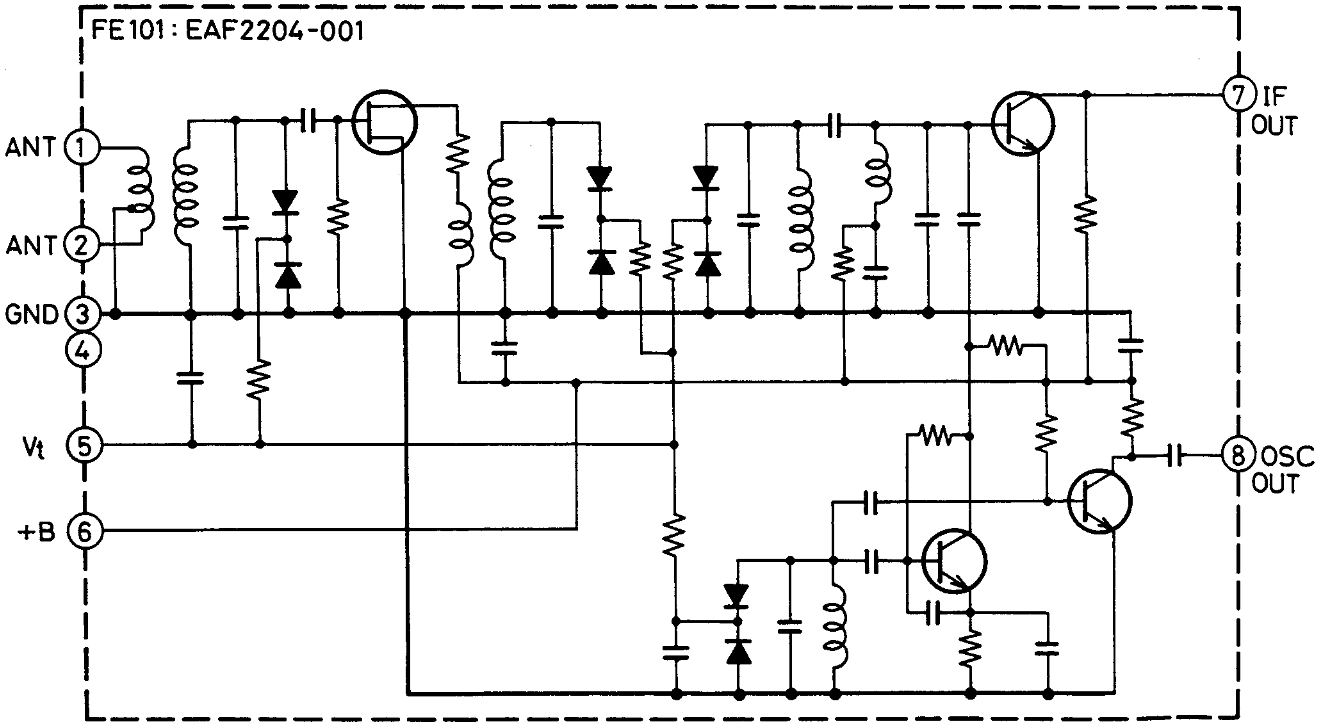
Pin No.	Symbol	I/O	Terminal Function
1	VeeA	-	Negative power supply for analog section. (-5V)
2	MSBR	O	MSB signal output for R-ch. MSB: "1" → -1V, "0" → +1V.
3	VccE	-	Positive power supply for ECL section. (+5V)
4	XN	I	Input / Output terminal for oscillator circuit.
5	XO	O	
6	XP	I	
7	VccE	-	Positive power supply for ECL section. (+5V)
8	LRCK	I	LR clock input.
9	BCK	I	Bit clock input.
10	DOUT	O	Digital audio data output.
11	VccD	-	Positive power supply for digital section. (+5V)
12	GNDE	-	Ground for ECL section.
13	VccA	-	Positive power supply for analog section. (+5V)
14	MSBL	O	MSB signal output for L-ch. MSB: "1" → -1V, "0" → +1V.
15	VeeA	-	Negative power supply for analog section. (-5V)
16	VtL	I	Reference voltage for comparator. (L-ch.)
17	AMPOL	O	DC gain amplifier output for L-ch.
18	AMPIL	I	DC gain amplifier input for L-ch.
19	AOUTL	O	Integrated amplifier output for L-ch.
20	AINL	I	Integrated amplifier input for L-ch.
21	SINL	I	Audio analog signal input for L-ch.
22	GNDA	-	Ground for analog section.
23	Iref	I	Reference current input for integrator.
24	GNDS	-	Ground for analog signal.
25	SINR	I	Audio analog signal input for R-ch.
26	AINR	I	Integrated amplifier input for R-ch.
27	AOUTR	O	Integrated amplifier output for R-ch.
28	AMPIR	I	DC gain amplifier input for R-ch.
29	AMPOR	O	DC gain amplifier output for R-ch.
30	VtR	I	Reference voltage for comparator. (R-ch.)

Schematic Diagram of Front-end Pack

■ FE101 : EAF2203-002 (for West Germany)


FE101: EAF2203-002
ANT ①
②
GND ④
③
Vt ⑤
+B ⑥
⑦ IF OUT
⑧ OSC OUT
for West Germany

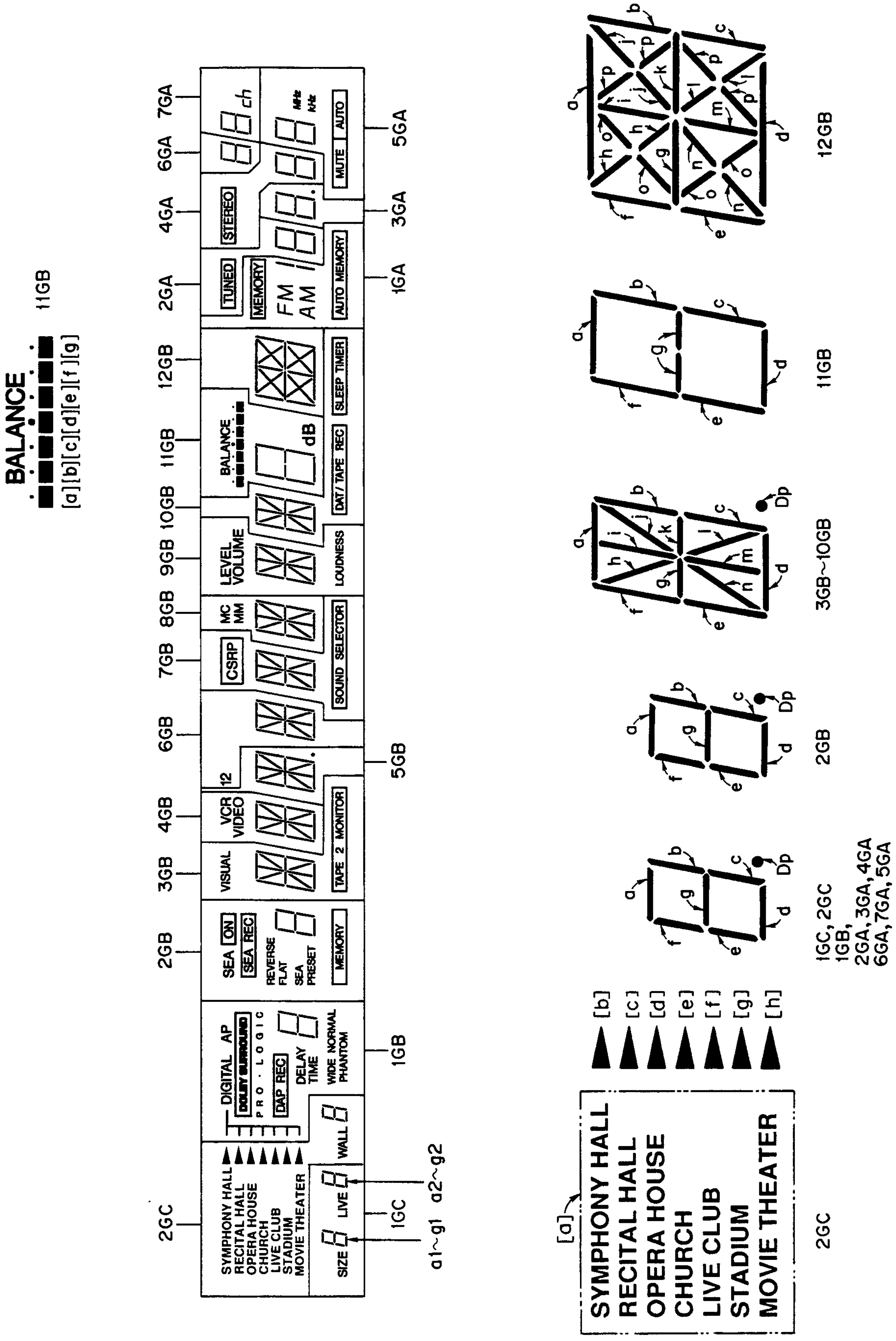
■ FE101 : EAF2204-001 (except for West Germany)


FE101: EAF2204-001
ANT ①
ANT ②
GND ③
④
Vt ⑤
+B ⑥
⑦ IF OUT
⑧ OSC OUT

Internal Connection of FL Display

■ FL461 : ELU0001-082

Anode & Grid Assignment


7GA
6GA
4GA
2GA
12GB
11GB
10GB
9GB
8GB
7GB
6GB
4GB
3GB
2GB
2GC
5GA
3GA
1GA
5GB
1GB
1GC
a1~g1
a2~g2
ch
MHz
kHz
STEREO
MUTE
AUTO
TUNED
MEMORY
FM
AM
AUTO MEMORY
BALANCE
dB
SLEEP TIMER
DAT / TAPE REC
LEVEL
VOLUME
LOUDNESS
MC
MM
CSRP
SOUND SELECTOR
12
VCR
VIDEO
VISUAL
TAPE 2 MONITOR
SEA ON
SEA REC
REVERSE
FLAT
SEA PRESET
MEMORY
DIGITAL AP
DOLBY SURROUND
PRO · LOGIC
DAP REC
DELAY TIME
WIDE NORMAL PHANTOM
WALL
SYMPHONY HALL
RECITAL HALL
OPERA HOUSE
CHURCH
LIVE CLUB
STADIUM
MOVIE THEATER
SIZE
LIVE
BALANCE
[a][b][c][d][e][f][g]
11GB
a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
Dp
12GB
11GB
3GB~10GB
2GB
1GC, 2GC
1GB,
2GA, 3GA, 4GA
6GA, 7GA, 5GA
[a]
[b]
[c]
[d]
[e]
[f]
[g]
[h]
SYMPHONY HALL
RECITAL HALL
OPERA HOUSE
CHURCH
LIVE CLUB
STADIUM
MOVIE THEATER
2GC

FL461: ELU0001-082
Pin Assignment

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assignment	F	1GA	3GA	5GA	7GA	6GA	4GA	2GA	S1A	S2A	S3A	S7A	S8A	S6A	S4A	S5A

Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assignment	1GB	5GB	12GB	11GB	10GB	9GB	8GB	7GB	6GB	4GB	3GB	2GB	S16B	S15B	S1B	S6B

Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Assignment	S9B	S8B	S10B	S2B	S7B	S11B	S3B	S14B	S12B	S13B	S5B	S4B	NC	S12C	S13C	S11C

Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Assignment	S15C	S14C	S10C	S9C	S16C	S1C	S2C	S6C	S7C	S5C	S3C	S4C	S8C	2GC	1GC	F

Terminal Connection (C)

Pin No. (Assignment)	63 (1GC)	62 (2GC)
61 (S8C)	SIZE	WALL
60 (S4C)	d1	d
59 (S3C)	c1	c
58 (S5C)	e1	e
57 (S7C)	g1	g
56 (S6C)	f1	f
55 (S2C)	b1	b
54 (S1C)	a1	a
53 (S16C)	LIVE	[a]
52 (S9C)	a2	[h]
51 (S10C)	b2	[g]
50 (S14C)	f2	[f]
49 (S15C)	g2	[e]
48 (S11C)	c2	[c]
47 (S13C)	e2	[d]
46 (S12C)	d2	[b]

Terminal Connection (A)

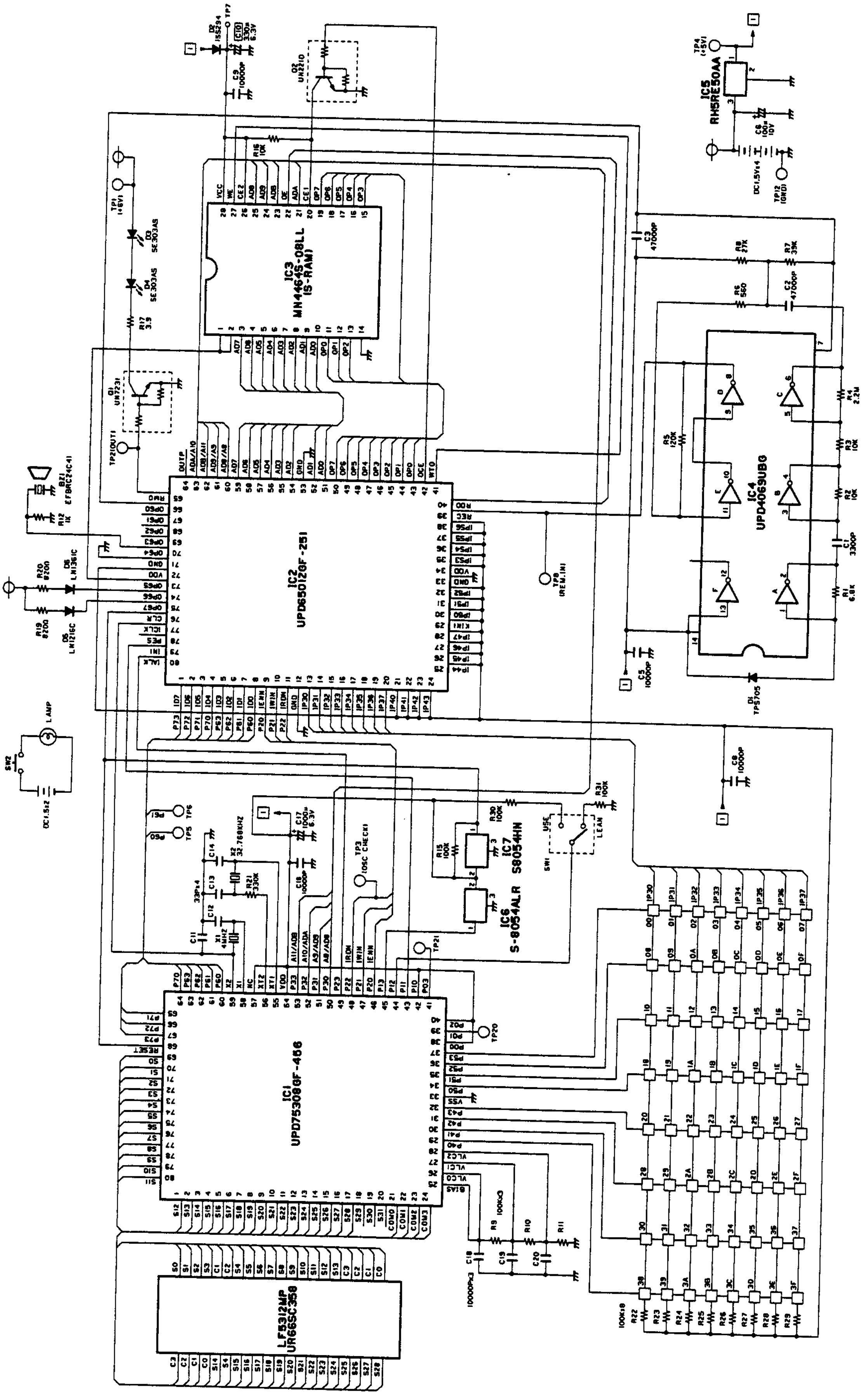
Pin No. (Assignment)	8 (2GA)	7 (4GA)	6 (6GA)	5 (7GA)	4 (5GA)	3 (3GA)	2 (1GA)
16 (S5A)	d	d	d	d	g	d	
15 (S4A)	c	c	c	c	kHz	c	MEMORY
14 (S6A)	e	e	e	e	c, f	e	FM
13 (S8A)	g	g	g	g	a, d	g	b, c
12 (S7A)	f	f	f	f	b, e	f	AM
11 (S3A)	b	b	b	b	MHz	b	
10 (S2A)	a	a	a	a		a	AUTO MEMORY
9 (S1A)	TUNED	STEREO		ch	MUTE AUTO	dot point	

Terminal Connection (B)

Pin No. (Assignment)	28 (2GB)	27 (3GB)	26 (4GB)	25 (6GB)	24 (7GB)	23 (8GB)	22 (9GB)	21 (10GB)	20 (11GB)	19 (12GB)	18 (5GB)	17 (1GB)
44 (S4B)	d	d	d	d	d	d	d	d	d	d	d	d
43 (S5B)	c	e	e	e	e	e	e	e	e	e	e	c
42 (S13B)	MEMORY	m	m	m	m	m	m	m	■ [g]	n	m	NORMAL
41 (S12B)	SEA PRESET	l	l	l	l	l	l	l	■ [f]	g	l	WIDE
40 (S14B)	FLAT	n	n	n	n	n	n	n	■ [e]	o	n	DELAY TIME
39 (S3B)	j	c	c	c	c	c	c	c	c	f	c	e
38 (S11B)	REVERSE	k	k	k	k	k	k	k	■ [d]	h	k	
37 (S7B)	e	g	g	g	g	g	g	g	g	a	g	g
36 (S2B)	i	b	b	b	b	b	b	b	b	i	b	f
35 (S10B)	g	j	j	j	j	j	j	j	■ [c]	j	j	
34 (S8B)	h	h	h	h	h	h	h	h	BALANCE ··· · ···	p	h	DAP REC
33 (S9B)	f	i	i	i	i	i	i	i	■ [b]	b	i	DOLBY SURROUND PRO·LOGIC
32 (S6B)	b	f	f	f	f	f	f	f	f	k	f	b
31 (S1B)	a	a	a	a	a	a	a	a	a	c	a	a
30 (S15B)	SEA REC	VISUAL	VIDEO	1	CSRP	MM	VOLUME	DAT/TAPE REC	■ [a]	l	dot point	PHANTOM
29 (S16B)	SEA ON	TAPE 2 MONITOR	VCR	2	SOUND SELECTOR	MC	LOUDNESS	SLEEP TIMER	dB	m		DIGITAL AP

Remote Control Unit (RM-SR1010U)

■ Schematic Diagram



IC1 UPD75308GF-466
IC2 UPD65012GF-251
IC3 MN4464S-08LL (S-RAM)
IC4 UPD4069UBG
IC5 RH5RE50AA
IC6 S-8054ALR
IC7 S8054HN
LF5312MP UR66SC358
BZ1 EFBRC24C41
SW1
SW2
LAMP
TP1 (+6V)
TP2 (OUT)
TP3 (OSC CHECK)
TP4 (+5V)
TP5
TP6
TP7
TP8 (REM.INI)
TP12 (GND)
TP20
TP21
X1 4MHZ
X2 32.768KHZ
DC1.5V×4
DC1.5×2
USE
LEAN

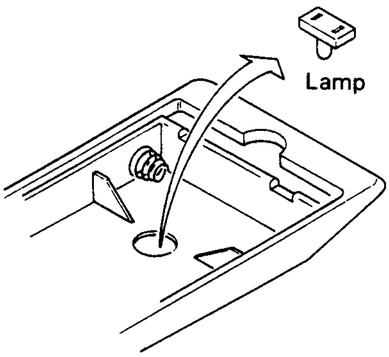
Parts List (RM-SR1010U)

Part Number	Part Name	Q'ty	Description
EUR66CS38C	Upper Case	1	
EUR66CS39B	Bottom Case	1	
EUR66EC40B	Battery Cover	1	
SSSB2608M	Screw	6	(Flat head, M2.6 x 8 mm)
EUR66CT47	Rubber Contact	1	4 keys (POWER / REMOTE)
EUR66CT48	Rubber Contact	1	4 keys (SELECT / CANCEL)
EUR66CT46	Rubber Contact	1	18 keys
EUR66SB41	Smoked Plate	1	(Front)
EUR64SB125	Smoked Plate	1	(Rear)
EUR64TD668	Common Contact	3	(+, −)
EUR60TD48	Common Contact	1	(+, −)
EUR66TD21	Battery Contact	2	(+)
EUR66TD22	Battery Spring	2	(−)
EUR66LB110A	Label	1	(on the Bottom Case)
EUR52SM541	Frame Seal	1	(Rubber Frame)
EUR51AM631A	Lamp	1	(be able to pull out)
EUR66SD45	Slide Knob	1	(USE / LEARN)
EUR66BT44	Push Botton	1	(for the Lamp)
EUR66FT43	Indicator	2	(LEARN / ERROR)
EUM-6014A	Display Toutch Panel	1	
EUR66ST109	Sheet	1	
EUR66SC359	L.C.Display	1	
EUR66SS42	Spacer	1	
EUR66VPB129	Main PC Board Ass'y	1set	
μPD75308GF-456	Microcomputer	1	IC1
μPD65012GF-251	Gate Array	1	IC2
MN4464S08LL	S-RAM	1	IC3 (or MB8464A10MAT)
μPD4069UBG	C-MOS	1	IC4
RH5RE50AA	Regulator	1	IC5
S8054ALRLNT1	Voltage Detector	1	IC6
S8054HNCBT1	Reset IC	1	IC7
UN7231TW	Tip Transistor	1	Q1
UN221DTW	Tip Transistor	1	Q2
CSA400MG	Ceramic Oscillator	1	X1 (4 MHz)
KF38G	Crystal Oscillator	1	X2
TPS705	Photo Diode	1	D1
1SS294TE85R	Tip Diode	1	D2
ESD1132232	Slide Switch	1	SW1 (USE / LEARN)
EVQQAH04K	Push Switch	1	SW2 (Lamp)
EFBRC24C41	Buzzer	1	BZ1
SBSB2008M	Screw	6	for Main PCB Mounting
EUR66VPB14	Sub PC Board Ass'y	1set	
SE303AS	LED	1	D3 (Infrared rays)
SE303AS	LED	1	D4 (Infrared rays)
LN1261CTR	LED	1	D5 (Red)
LN1361CTR	LED	1	D6 (Green)

Removal Procedures

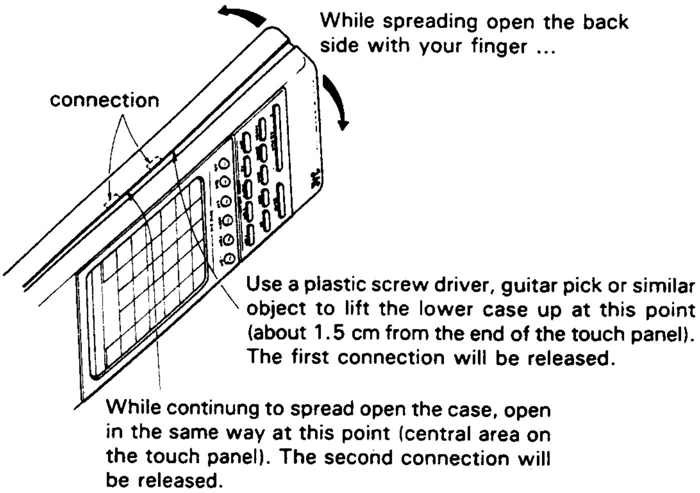
■ Replacing of the lamp

1. Open the battery lid of the bottom cover by sliding it upwards.
2. White rubber has been inserted into the pin at the bottom of the round hole. Pull it out by using tweezers.



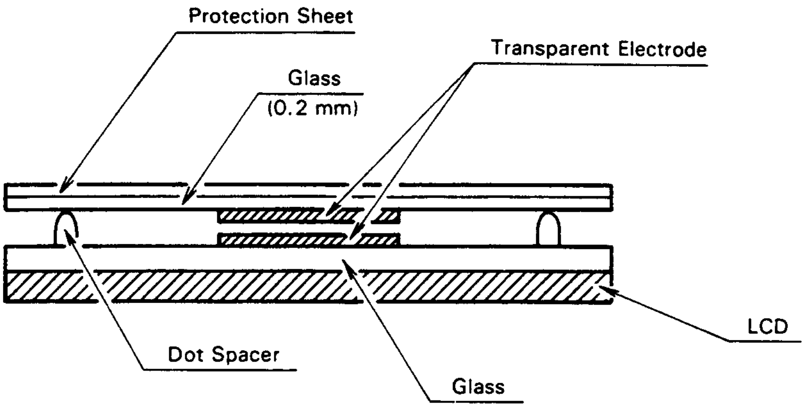
■ How to remove the bottom cover

1. Unscrew the six screws with a Philips screwdriver.


While spreading open the back side with your finger ...
connection
Use a plastic screw driver, guitar pick or similar object to lift the lower case up at this point (about 1.5 cm from the end of the touch panel). The first connection will be released.
While continung to spread open the case, open in the same way at this point (central area on the touch panel). The second connection will be released.

Transparent Touch Panel

■ Structure of the transparent touch panel


Protection Sheet
Transparent Electrode
Glass
(0.2 mm)
LCD
Dot Spacer
Glass

■ Notes on Usage

The remote control display surface is covered with a glass 0.2 mm in thickness. Because of this, care should be taken in order not hit the remote control unit with a hard object, drop the unit or allow any other kind of shocks. Shocks to the unit will result in cracking or breaking the glass on the surface.

■ Notes on Service

1. Do not attempt to place batteries in the unit with the bottom cover off. This will result in the ⊖ negative spring touching the ⊕ board and will short out the batteries.
2. When displays and operations on this equipment are not functioning normally, the internal data of the S-RAM has probably been destroyed. In such a case, first initialize the S-RAM (see next page).

Initialization of the S-RAM

When the battery has been removed during the CANCEL-ALL operation or when the displays and functions of the display are abnormal for some other reason, it is most probably due to a malfunction in the initial setting of the S-RAM.
In such a case, carry out initialization of the S-RAM as shown below. Then check to see whether the displays and functions of the unit have returned to normal.
If the unit does not return to normal functioning even after initializing the S-RAM, replace the micro-computer. Initialize the S-RAM again after replacement and check to see that the unit is functioning normally.

Order of initialization:

1.	Turn the switch on the bottom case to LEARN.
2.	Remove one of the batteries. (Remove the battery among the six batteries that is lowest).
3.	While simultaneously press the DAP button on DISPLAY and the AUDIO button on POWER, re-insert the battery. • Everything on the LCD panel should light at this time, after which the individual segments will be displayed in sequence. When all of the lights are displayed again, the SEND/LEARN indicator and the ERROR indicator will both light.
4.	After several seconds, the ERROR indicator will be extinguished and only the SEND/LEARN indicator will remain lit. At this point, press one of the buttons on DISPLAY. All displays will be extinguished.
5.	After waiting about 5 seconds, press any one of the buttons (completion of micro-computer, S-RAM initialization).
6.	Turn the switch on the bottom case to USE. Normal use will now be possible.

Carrying out the operations in step from (1) to (6) after replacing the LCD panel will make it possible to check whether the LCD panel is correctly attached or not.

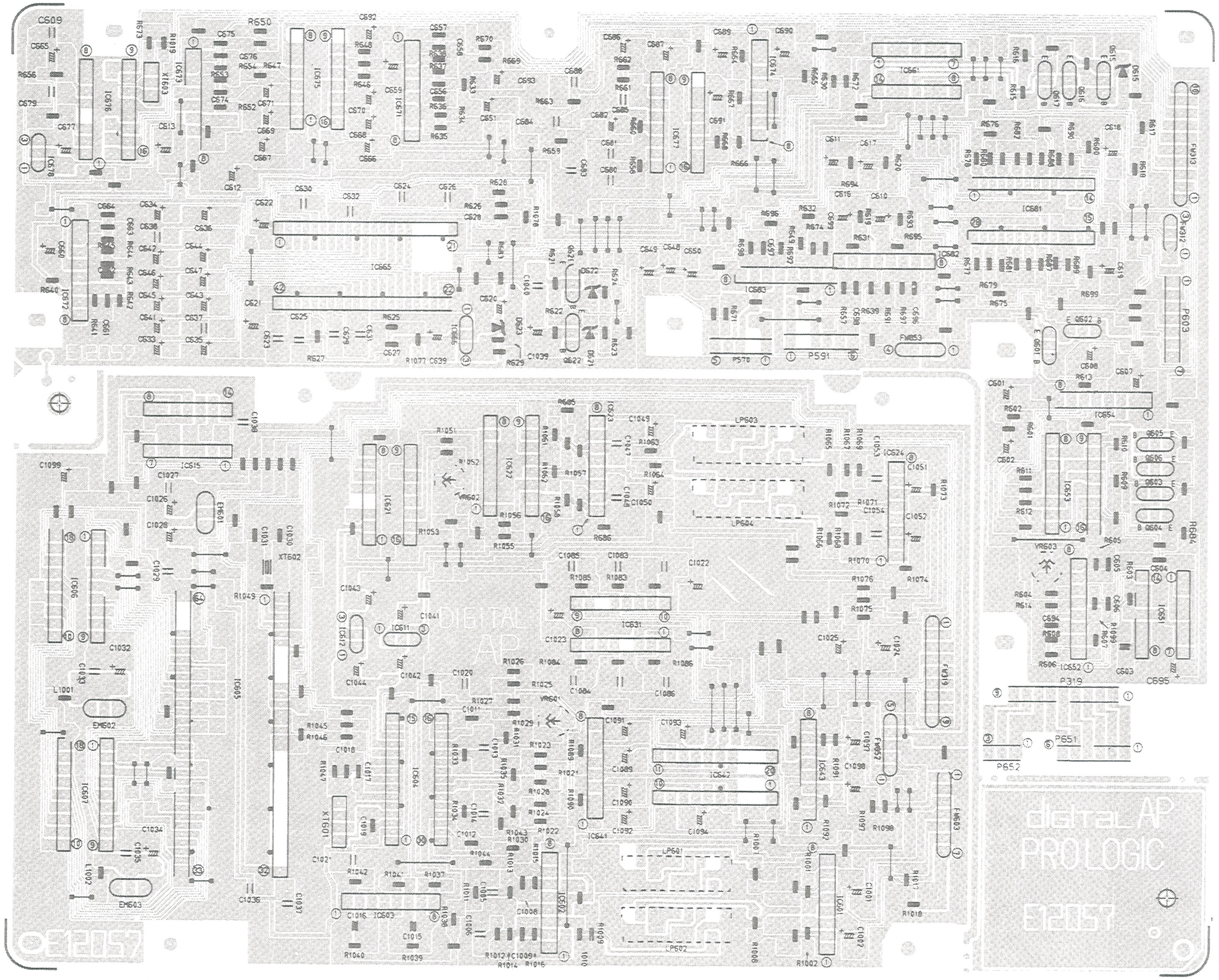
S-RAM Substitution Table

FUJITSU	MB8464A-10LLMAT ······· ORIGINAL (On the Parts List: MB8464A10MAT)		
NEC	μPD4364G-10L μPD4364G-12L μPD4364G-15L μPD4364G-10LL μPD4364G-12LL μPD4364G-15LL	μPD4364GU-10L μPD4364GU-12L μPD4364GU-15L μPD4364GU-10LL μPD4364GU-12LL μPD4364GU-15LL	μPD4464G-12 μPD4464G-15 μPD4464G-20 μPD4464G-12L μPD4464G-15L μPD4464G-20L
MATSUSHITA	MN4464S-08LL		
SONY	CXK5864M-12L CXK5864M-15L	CXK5864M-12LL CXK5864M-15LL	
TOSHIBA	TC5564AFL-15	TC5565AFL-15 TC5565AFL-12 TC5565AFL-10	TC5565AFL-15L TC5565AFL-12L TC5565AFL-10L
SHARP	LH5164LN-10	LH5164LN-12	LH5164LN-15
HITACHI	HM6264AFP	HM6264ALFP	HM6264ALFP-L
SANYO	LC3564PM-10 LC3564PM-12	LC3564PML-10 LC3564PML-12	LC3664NML-10 LC3664NML-12 LC3664NML-85

- MEMO -

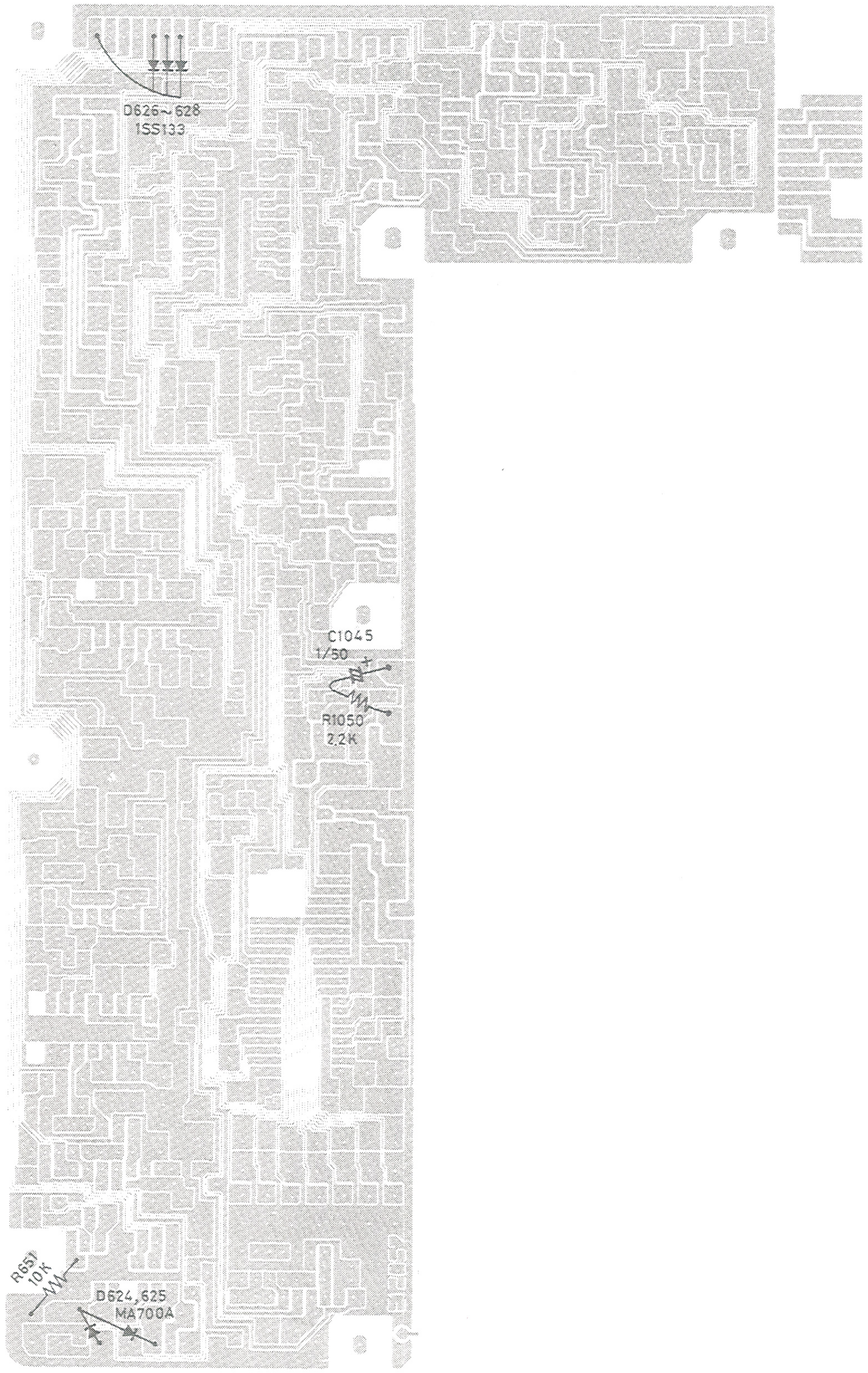
Printed Circuit Boards (6)

■ DAP & Surround PC Board (ENP-021)

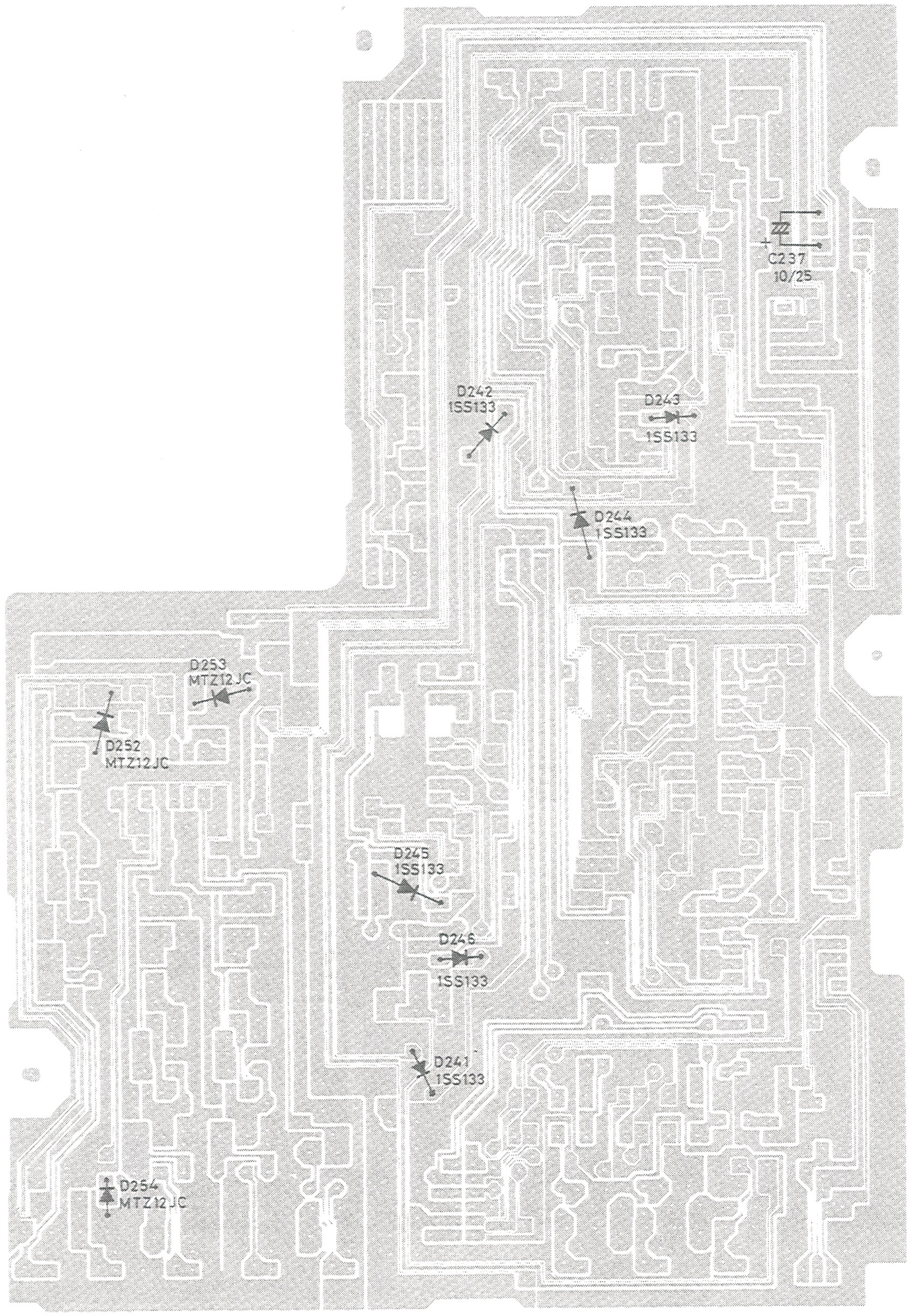

DIGITAL AP
digital AP
PRO LOGIC
E12057
IC665
IC631
IC642
IC661
IC681
IC683
IC654
IC653
IC651
IC652
IC615
IC606
IC607
IC605
IC604
IC603
IC601
IC602
IC621
IC622
IC623
IC624
IC641
IC643
IC671
IC672
IC673
IC674
IC675
IC676
IC677
IC678
XT601
XT602
XT603
FW613
FW612
FW653
FW619
FW603
FW652
P603
P319
P651
P652
P570
P591
LP601
LP602
LP603
LP604
EM601
EM602
EM603
L1001
L1002
VR601
VR602
VR603

Lining Parts of PC Board

■ Surround PC Board (ENP-021)

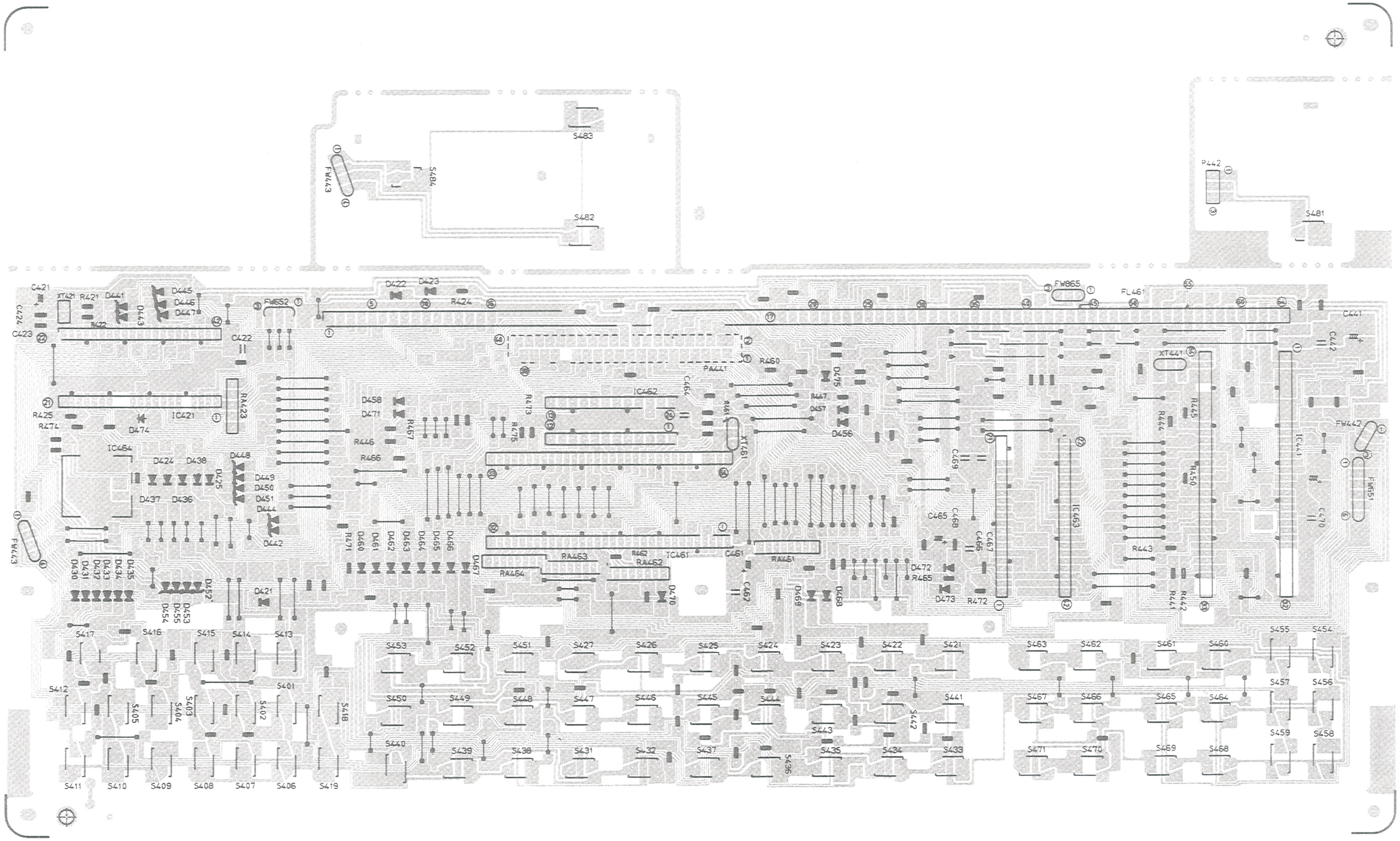

D626~628
1SS133
C1045
1/50
R1050
2.2K
R651
10K
D624,625
MA700A

■ Video Signal PC Board (ENC-068)


C237
10/25
D242
1SS133
D243
1SS133
D244
1SS133
D253
MTZ12JC
D252
MTZ12JC
D245
1SS133
D246
1SS133
D241
1SS133
D254
MTZ12JC

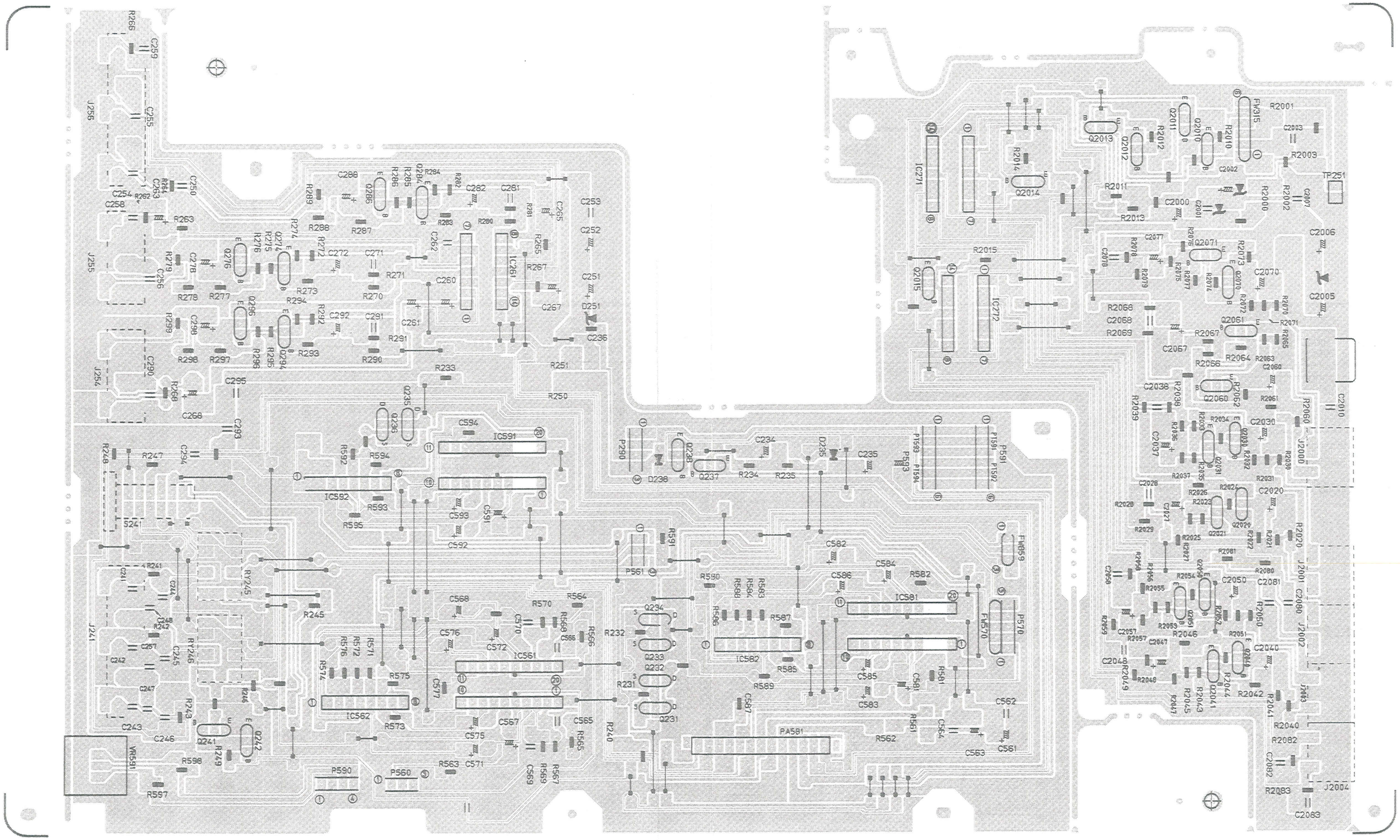
Printed Circuit Boards (4)

■ Display & Control PC Board (ENB-093)


S483
S484
S482
FW443
P442
S481
C421
XT421
R421
D441
D445
D446
D447
D443
C424
C423
R422
C422
FW652
D422
D423
R424
FW865
FL461
C441
C442
PA441
R460
XT441
IC462
C464
R461
XT461
R473
R475
D458
D471
R467
R446
R466
RA423
IC421
R425
R474
D474
IC464
D424
D438
D425
D448
D449
D450
D451
D444
D437
D436
D442
D475
R447
D457
D456
C469
R445
R444
R450
IC441
FW442
FW651
C470
IC463
C468
C465
C466
C467
R443
R442
R441
D472
R465
D473
R472
R471
D460
D461
D462
D463
D464
D465
D466
D467
RA463
RA464
R462
RA462
IC461
C461
RA461
D470
C462
D469
D468
D430
D431
D432
D433
D434
D435
D452
D453
D454
D455
D421
S417
S416
S415
S414
S413
S412
S401
S405
S404
S403
S402
S418
S411
S410
S409
S408
S407
S406
S419
S453
S452
S451
S427
S426
S425
S424
S423
S422
S421
S450
S449
S448
S447
S446
S445
S444
S441
S442
S443
S440
S439
S438
S431
S432
S437
S436
S435
S434
S433
S463
S462
S461
S460
S455
S454
S467
S466
S465
S464
S457
S456
S459
S458
S471
S470
S469
S468

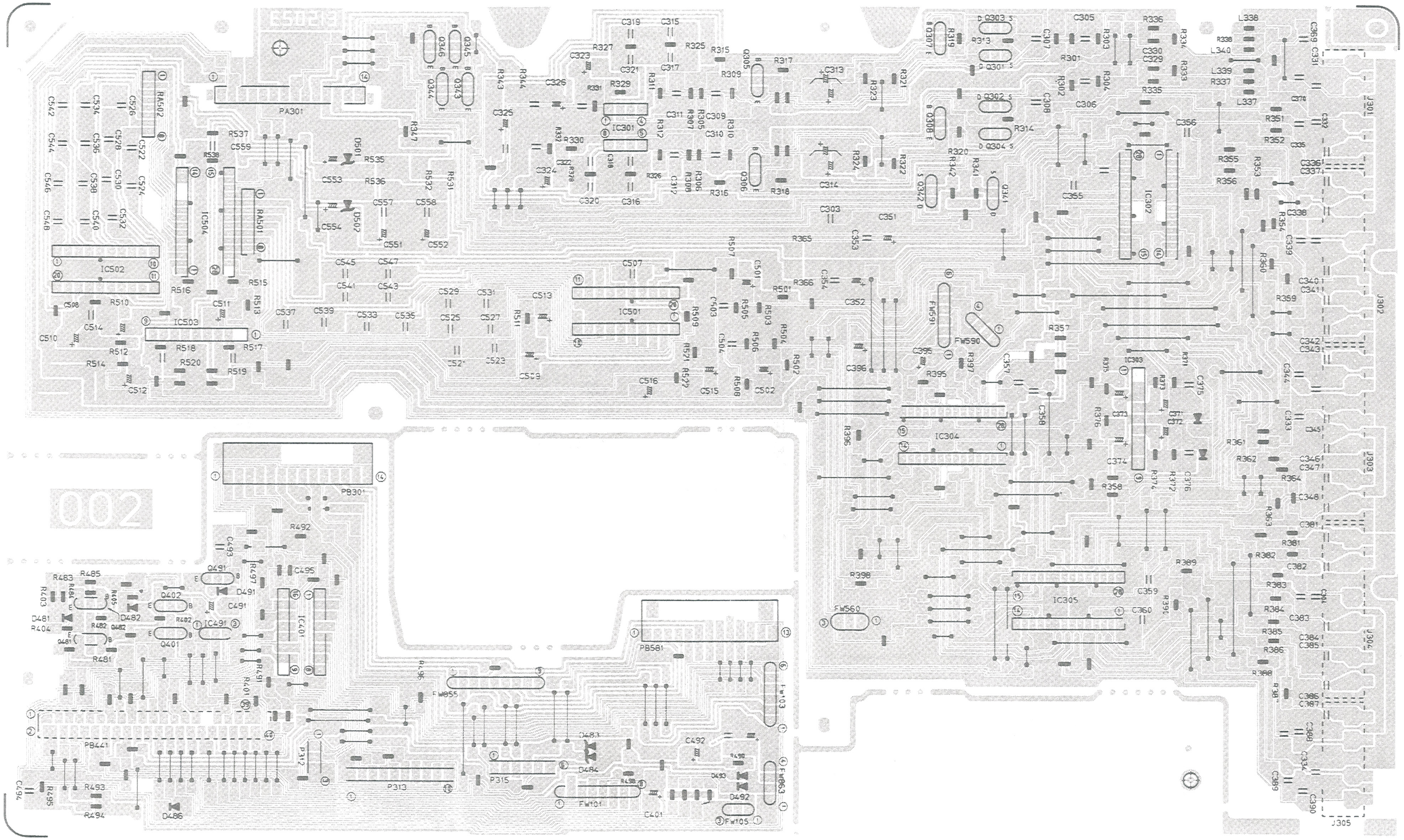
Printed Circuit Boards (5)

■ Video Signal & Volume Control PC Board (ENC-068)



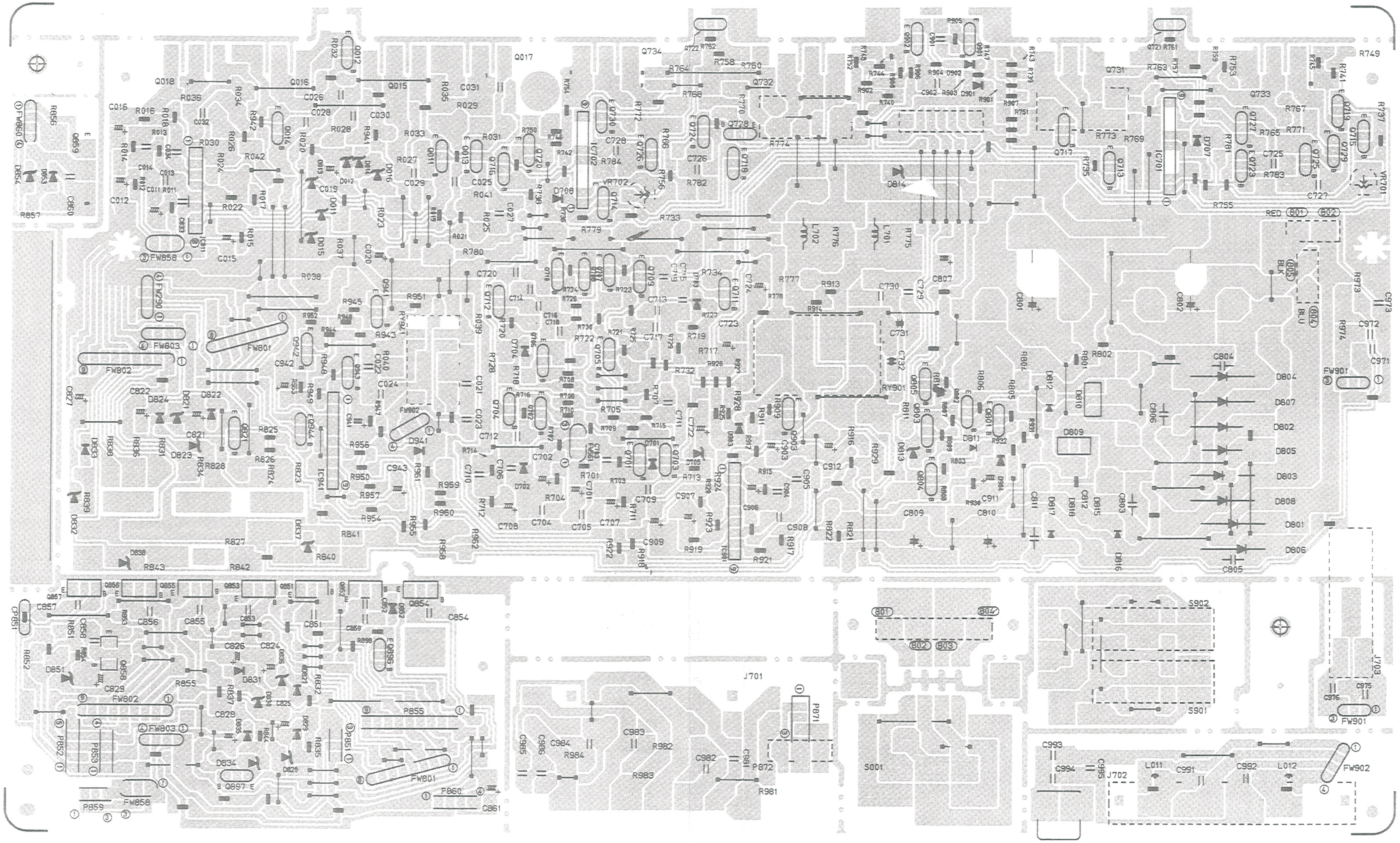
Printed Circuit Boards (2)

■ Source Selector & SEA PC Board (ENF-055)

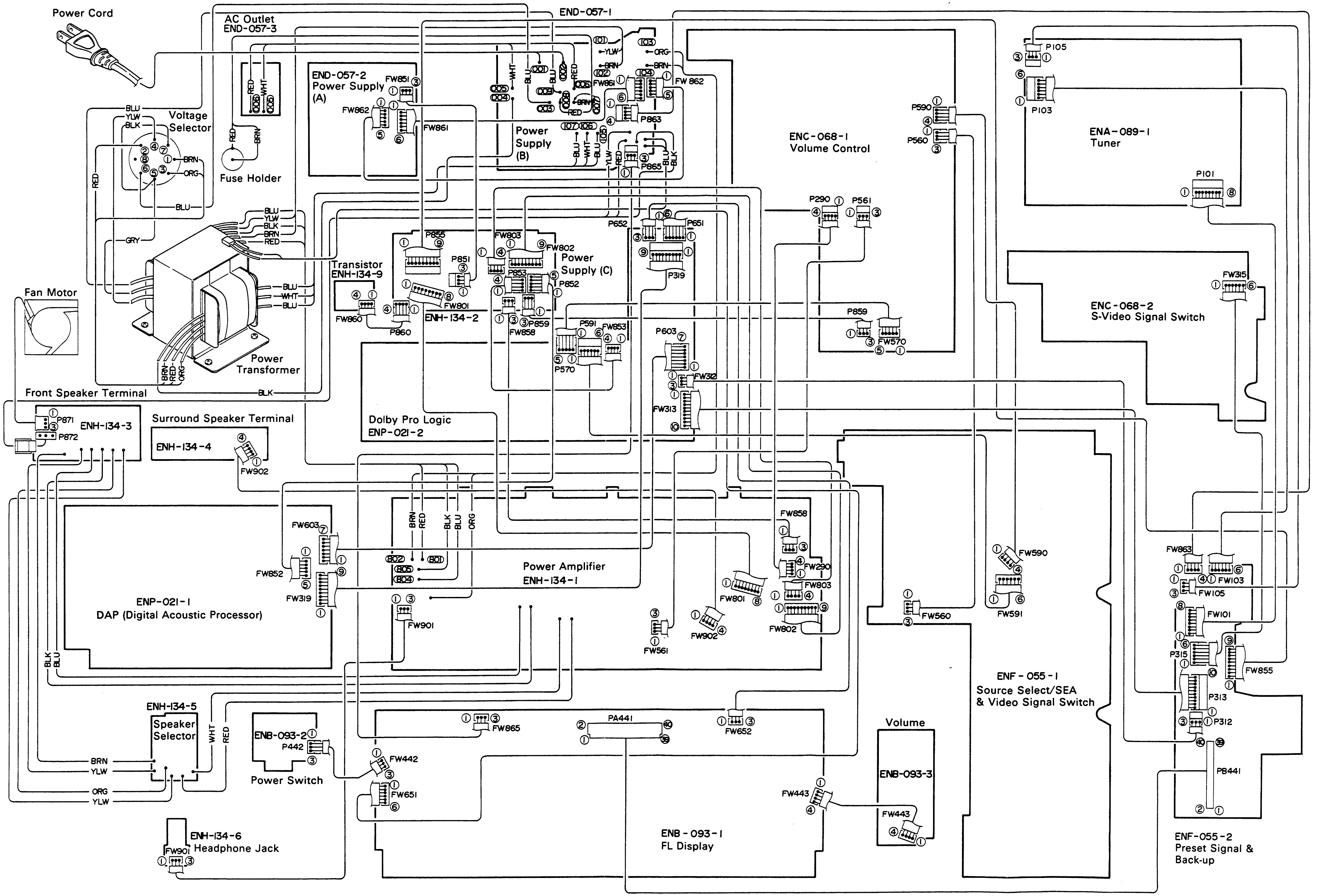

PA301
RA501
RA502
IC301
IC302
IC303
IC304
IC305
IC401
IC491
IC501
IC502
IC503
IC504
PB301
PB441
PB581
P312
P313
P315
J301
J302
J303
J304
J305
FW101
FW103
FW105
FW463
FW559
FW560
FW590
FW855
002

Printed Circuit Boards (3)

■ Power Amplifier PC Board (ENH-134)

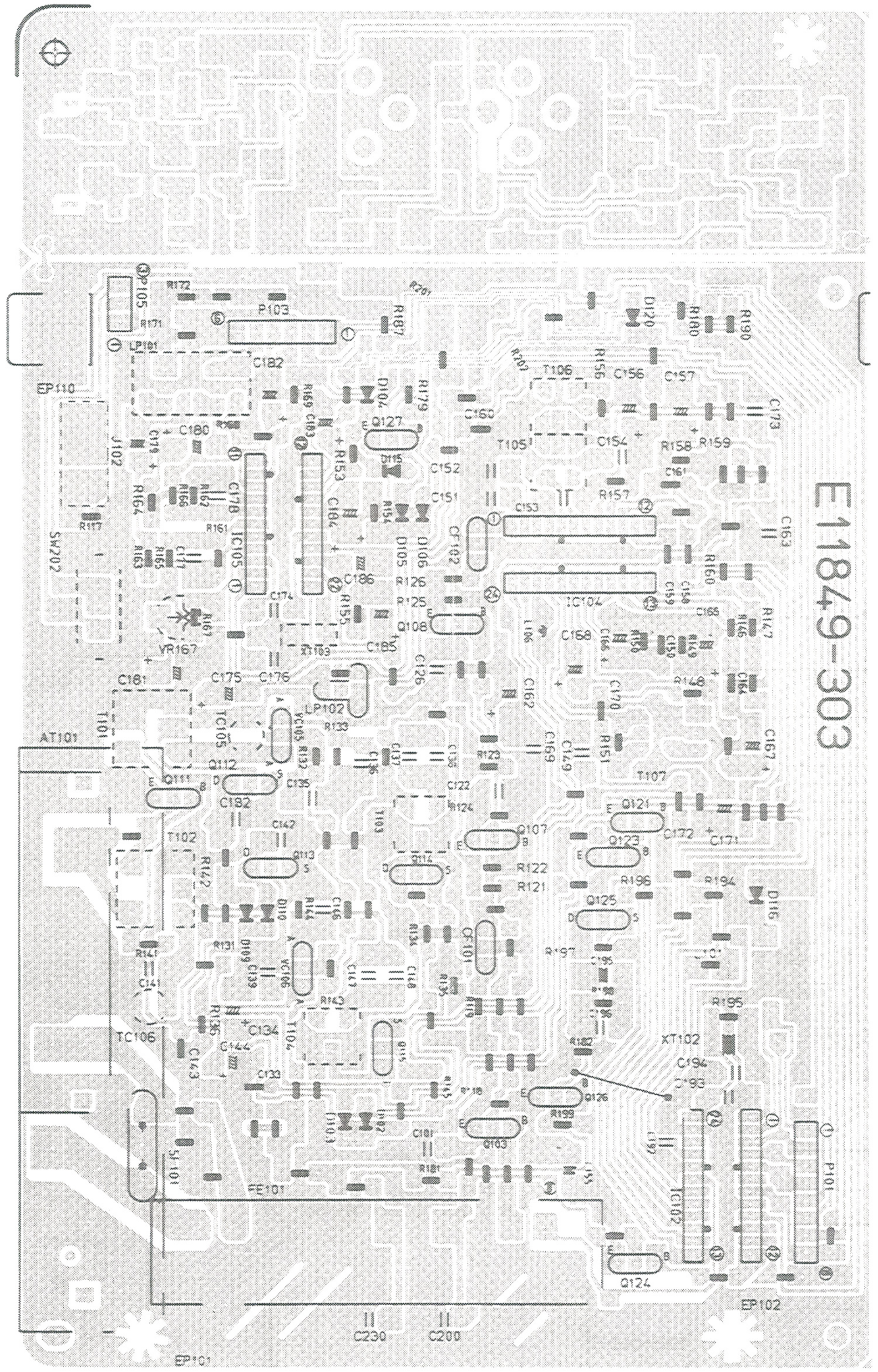

Q017
Q018
Q016
Q015
Q734
Q732
Q731
Q733
IC702
IC701
IC901
IC941
VR702
VR701
L702
L701
RY901
C801
C802
D804
D807
D802
D805
D803
D808
D801
D806
D809
RED
BLK
BLU
FW802
FW803
FW801
FW858
FW860
FW901
FW902
J701
J702
J703
S901
S902
S001
P855
P852
P853
P859
P860
P851
P871
P872
CP851
L011
L012

Connection Diagrams

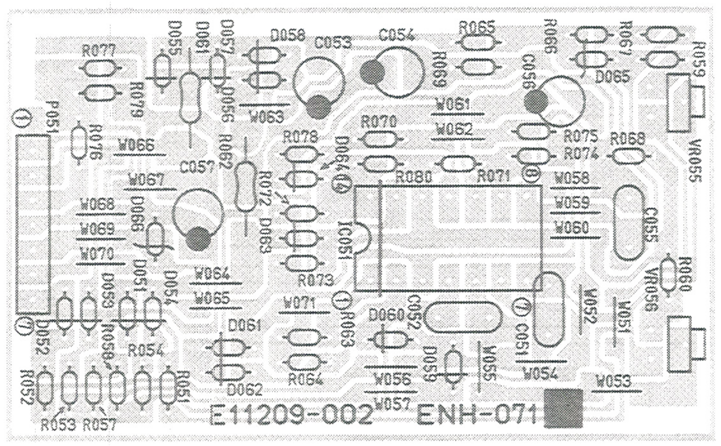

Power Cord
AC Outlet
END-057-3
END-057-1
END-057-2
Power Supply
(A)
FW851
FW862
FW861
Voltage
Selector
Fuse Holder
Power
Supply
(B)
FW861
FW 862
P863
P865
ENC-068-1
Volume Control
P590
P560
P105
P103
ENA-089-1
Tuner
P101
P290
P561
P652
P651
P319
Transistor
ENH-134-9
FW860
P860
P855
P851
FW803
FW802
Power
Supply (C)
P853
P852
FW801
ENH-134-2
FW858
P859
P591
FW853
P570
P603
FW312
FW313
P859
FW570
FW315
ENC-068-2
S-Video Signal Switch
Fan Motor
Power
Transformer
Front Speaker Terminal
P871
P872
ENH-134-3
Surround Speaker Terminal
ENH-134-4
FW902
Dolby Pro Logic
ENP-021-2
FW603
FW852
FW319
ENP-021-1
DAP (Digital Acoustic Processor)
Power Amplifier
ENH-134-1
FW901
FW858
FW290
FW803
FW801
FW802
FW902
FW561
FW560
FW590
FW591
FW863
FW103
FW105
FW101
P315
P313
P312
FW855
ENF-055-1
Source Select/SEA
& Video Signal Switch
ENH-134-5
Speaker
Selector
ENB-093-2
P442
Power Switch
FW442
FW651
FW865
PA441
FW652
FW443
Volume
ENB-093-3
FW443
ENB-093-1
FL Display
PB441
ENF-055-2
Preset Signal &
Back-up
ENH-134-6
FW901
Headphone Jack
BLU
YLW
BLK
BRN
ORG
RED
WHT
GRY

Printed Circuit Boards (1)

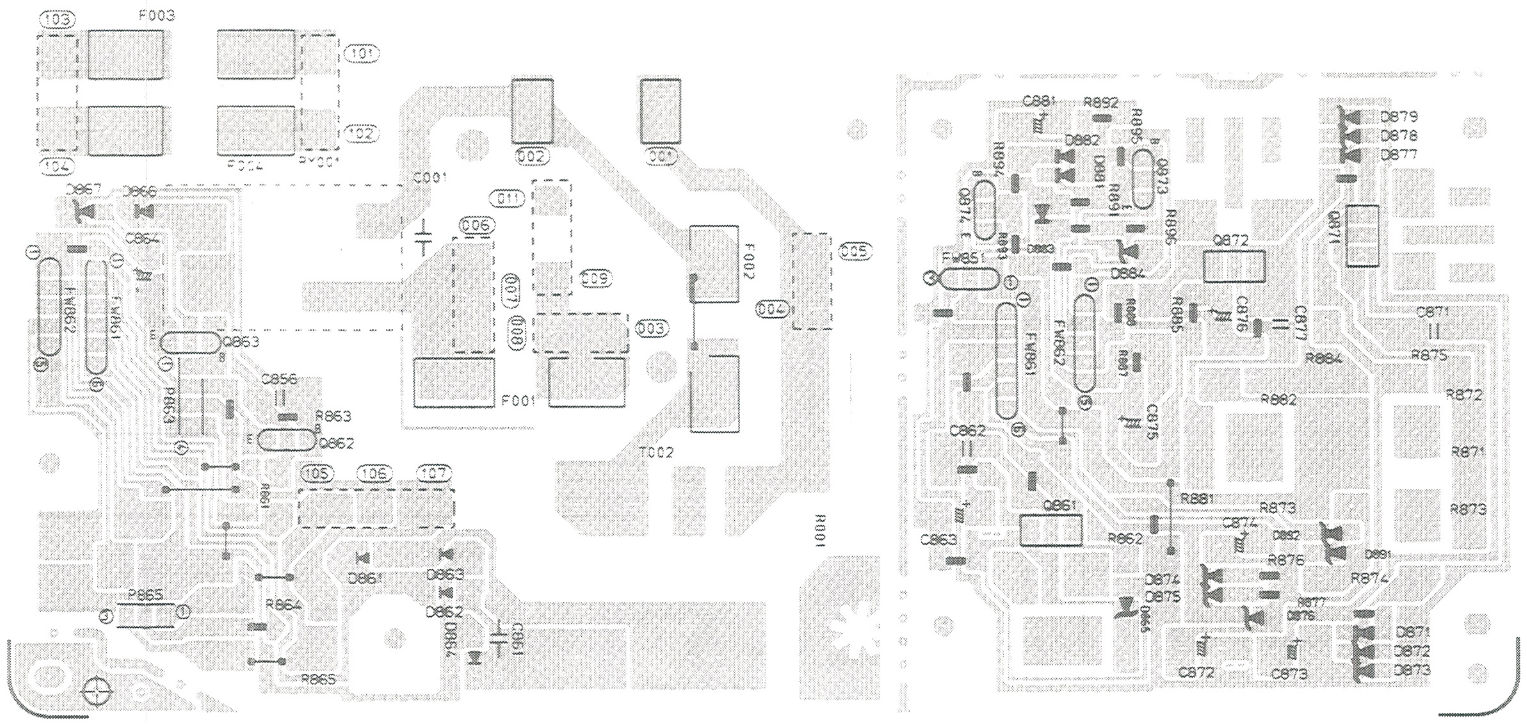
■ Tuner PC Board (ENA-089)



■ Impedance Unit PC Board (ENH-071)

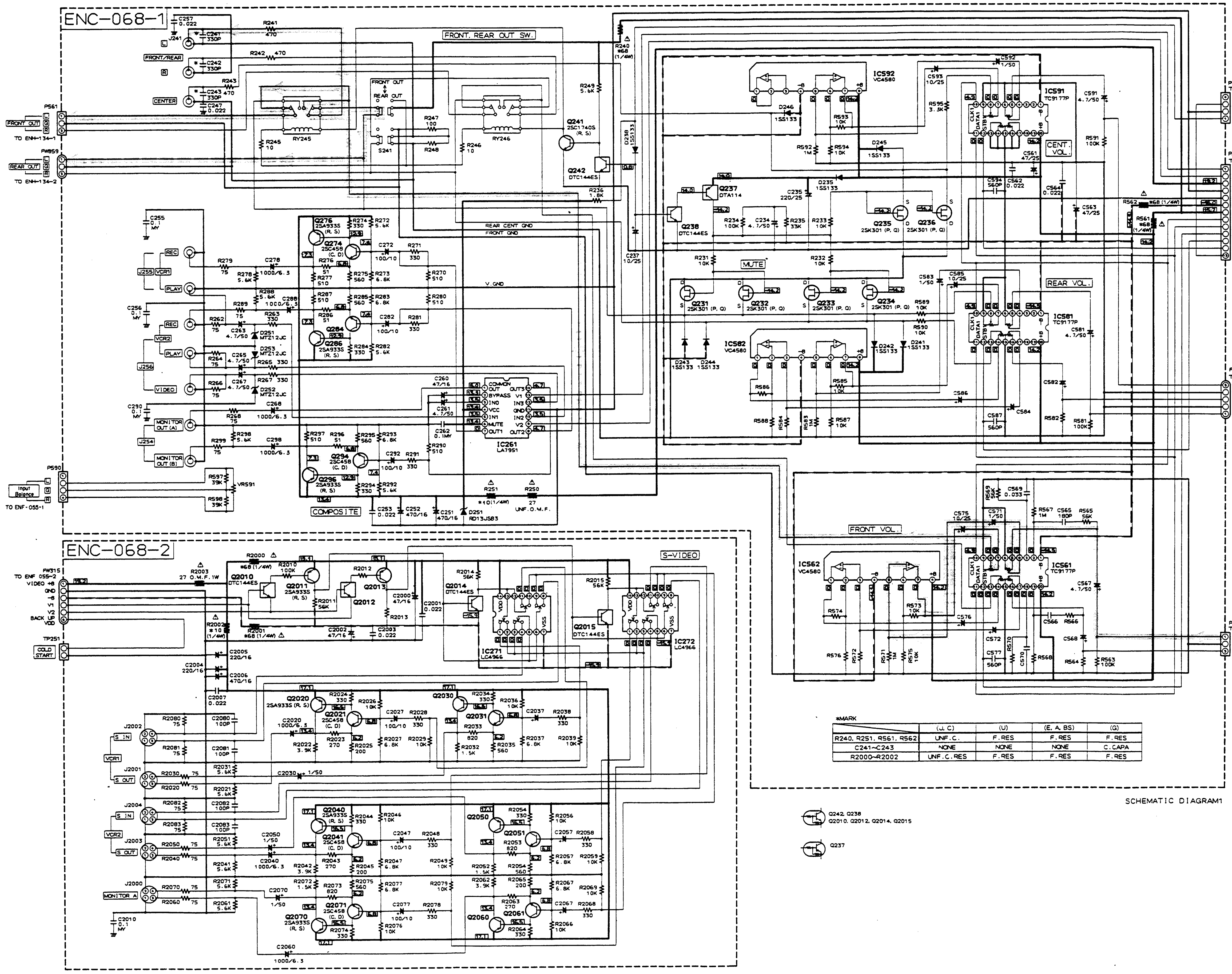

E11209-002 ENH-071

■ Power Supply PC Board (END-057)



Schematic Diagrams (5)

■ Video Signal & Volume Control Section


ENC-068-1
FRONT. REAR OUT SW.
FRONT/REAR
CENTER
P561
FRONT OUT
TO ENH-134-1
PW859
REAR OUT
TO ENH-134-2
RY245
RY246
S241
Q241 2SC1740S (R, S)
Q242 DTC144ES
REC
PLAY
VCR1
VCR2
J255
J256
J254
VIDEO
MONITOR OUT (A)
MONITOR OUT (B)
REAR CENT GND
FRONT GND
V. GND
IC261 LA7951
COMPOSITE
P590
Input Balance
TO ENF-055-1
VR591
IC592 VC4580
IC591 TC9177P
CENT. VOL.
Q237 DTA114
Q238 DTC144ES
Q235 2SK301 (P, Q)
Q236 2SK301 (P, Q)
MUTE
Q231 2SK301 (P, Q)
Q232 2SK301 (P, Q)
Q233 2SK301 (P, Q)
Q234 2SK301 (P, Q)
IC582 VC4580
IC581 TC9177P
REAR VOL.
P290 TO ENH-134-1
SORROUND
GND
RELAY MUTE
PA581 TO ENF-055-2
V-1
V-2
VIDEO +8
VIDEO GND
GND
-8
+8
CLK1
DATA1
STB1
STB2
STB3
SORROUND
PW570 TO ENP-021
CENTER
GND
REAR R
GND
REAR L
FRONT VOL.
IC562 VC4580
IC561 TC9177P
P560 TO ENF-055-1
L
G
R
FRONT IN
ENC-068-2
PW315 TO ENF 055-2
VIDEO +8
GND
-8
V1
V2
BACK
VDD
TP251
COLD START
Q2010 DTC144ES
Q2011 2SA933S (R, S)
Q2012
Q2013
Q2014 DTC144ES
Q2015 DTC144ES
S-VIDEO
IC271 LC4966
IC272 LC4966
S IN
S OUT
VCR1
VCR2
J2001
J2002
J2003
J2004
J2000
MONITOR A
Q2020 2SA933S (R, S)
Q2021 2SC458 (C, D)
Q2030
Q2031
Q2040 2SA933S (R, S)
Q2041 2SC458 (C, D)
Q2050
Q2051
Q2060
Q2061
Q2070 2SA933S (R, S)
Q2071 2SC458 (C, D)

*MARK

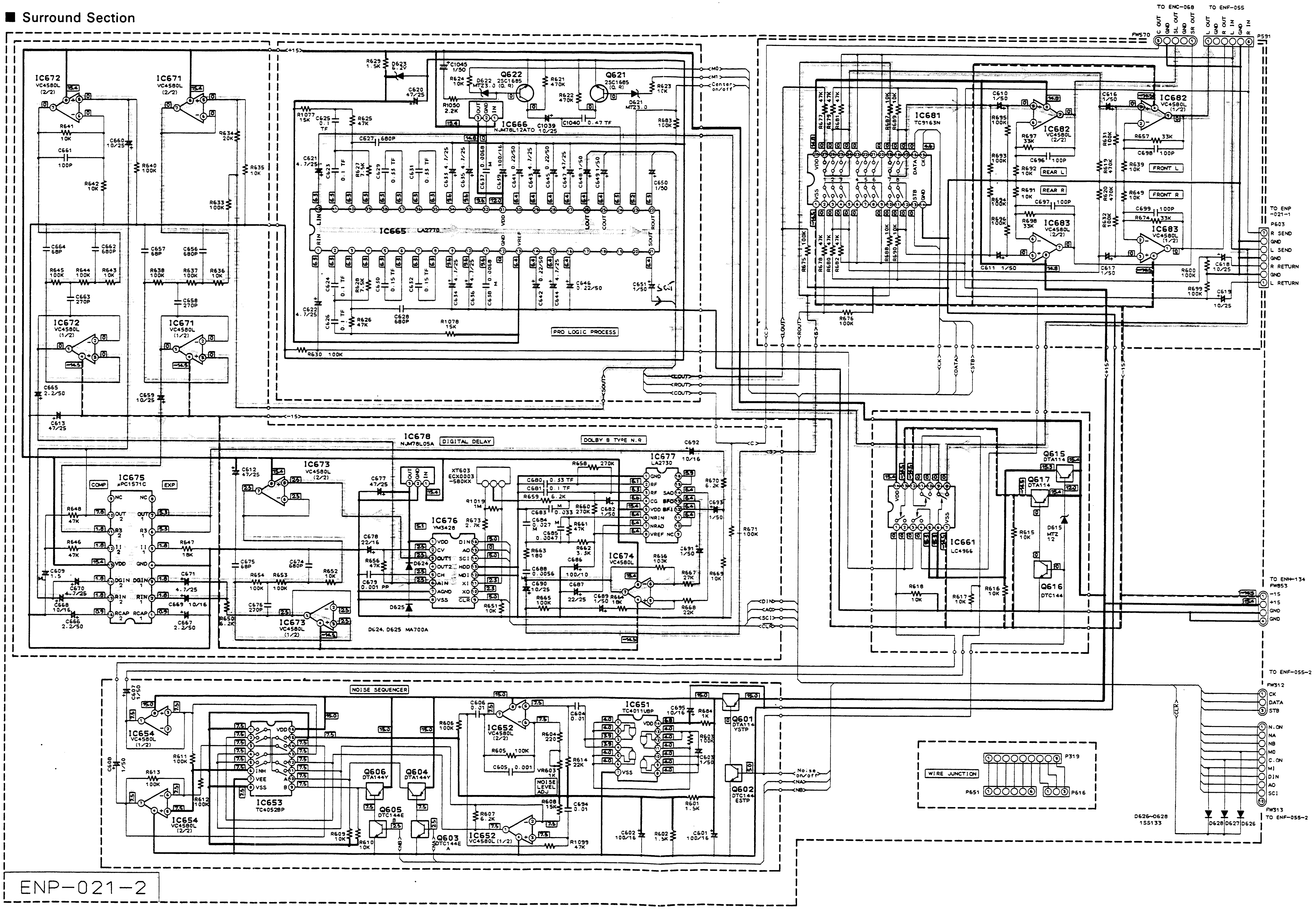
	(J, C)	(U)	(E, A, BS)	(G)
R240, R251, R561, R562	UNF.C.	F.RES	F.RES	F.RES
C241~C243	NONE	NONE	NONE	C.CAPA
R2000~R2002	UNF.C.RES	F.RES	F.RES	F.RES

SCHEMATIC DIAGRAM1

Q242, Q238
Q2010, Q2012, Q2014, Q2015
Q237

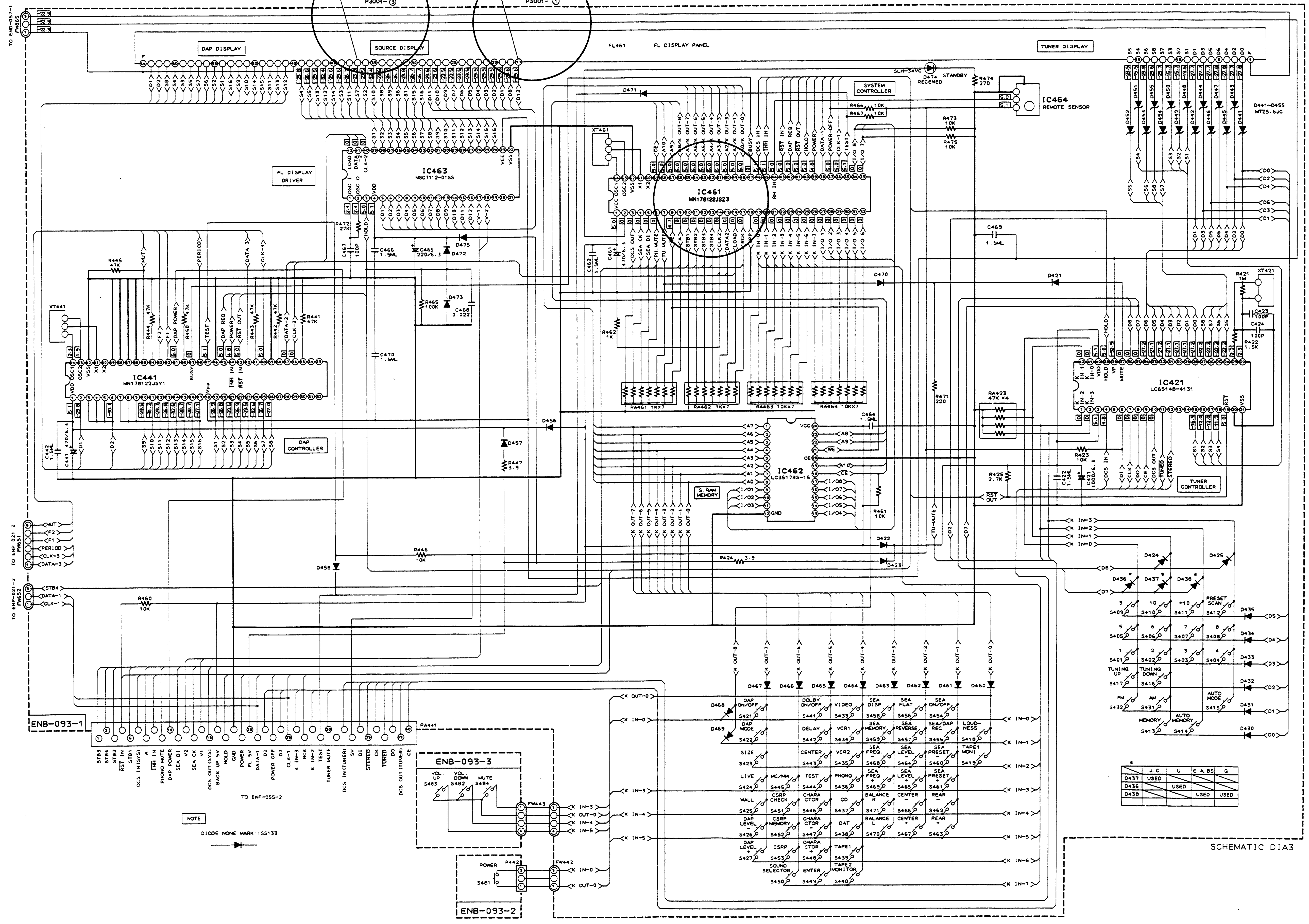
Schematic Diagrams (6)

■ Surround Section


TO ENC-068
TO ENF-055
FW570
P591
IC672
VC4580L
IC671
IC665 LA2770
IC666 NJM78L12ATO
Q622 2SC1685
Q621 2SC1685
PRO LOGIC PROCESS
IC681 TC9163N
IC682 VC4580L
IC683 VC4580L
FRONT L
FRONT R
REAR L
REAR R
TO ENP -021-1
P603
R SEND
GND
L SEND
R RETURN
L RETURN
IC678 NJM78L05A
DIGITAL DELAY
DOLBY B TYPE N.R
IC675 μPC1571C
COMP
EXP
IC673 VC4580L
IC676 YM3428
XT603 ECK0003 -580KX
IC677 LA2730
IC674 VC4580L
D624, D625 MA700A
IC661 LC4966
Q615 DTA114
Q617 DTA114
Q616 DTC144
TO ENH-134
FW853
-15
+15
GND
TO ENF-055-2
FW312
CK
DATA
STB
N.ON
NA
NB
MO
C.ON
MI
DIN
AO
SCI
FW313
TO ENF-055-2
D626-D628 1SS133
NOISE SEQUENCER
IC654 VC4580L
IC653 TC4052BP
Q606 DTA144Y
Q604 DTA144Y
Q605 DTC144E
Q603 DTC144E
IC652 VC4580L
NOISE LEVEL ADJ
IC651 TC4011UBP
Q601 DTA114 YSTP
Q602 DTC144 ESTP
WIRE JUNCTION
P319
P651
P616
ENP-021-2

Schematic Diagram (4)

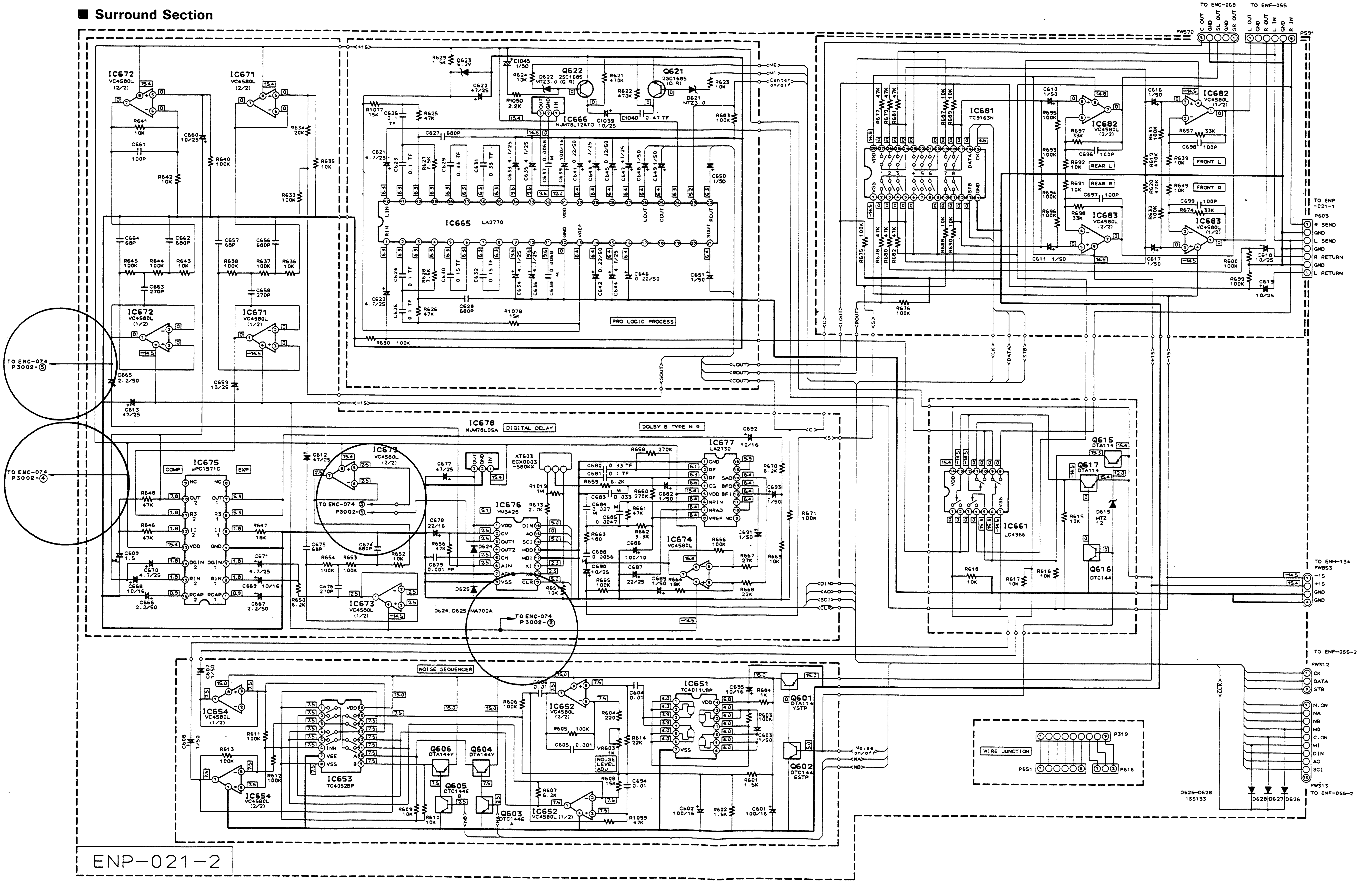
■ Display & Control Section


TO ENC-074 P3001-③
TO ENC-074 P3001-①
TO ENC-057-1 FW865
DAP DISPLAY
SOURCE DISPLAY
FL461
FL DISPLAY PANEL
TUNER DISPLAY
SLH-34VC
D474 STANDBY RECENED
R474 270
SYSTEM CONTROLLER
IC464 REMOTE SENSOR
D441~D455 MTZ5.6JC
XT461
IC463 MSC7112-01SS
FL DISPLAY DRIVER
IC461 MN178122JSZ3
IC441 MN178122JSY1
DAP CONTROLLER
XT441
IC462 LC35178S-15
S.RAM MEMORY
IC421 LC65148-4131
TUNER CONTROLLER
XT421
RA461 1KX7
RA462 1KX7
RA463 10KX7
RA464 10KX7
RA423 47K X4
TO ENP-021-2 FW851
TO ENP-021-2 FW852
ENB-093-1
PA441
TO ENF-055-2
ENB-093-3
VOL UP S483
VOL DOWN S482
MUTE S484
FW443
ENB-093-2
POWER P442 S481
FW442
NOTE
DIODE NONE MARK 1SS133
SCHEMATIC DIA3

*	J. C	U	E, A, BS	Q
D437	USED			
D436		USED		
D438			USED	USED

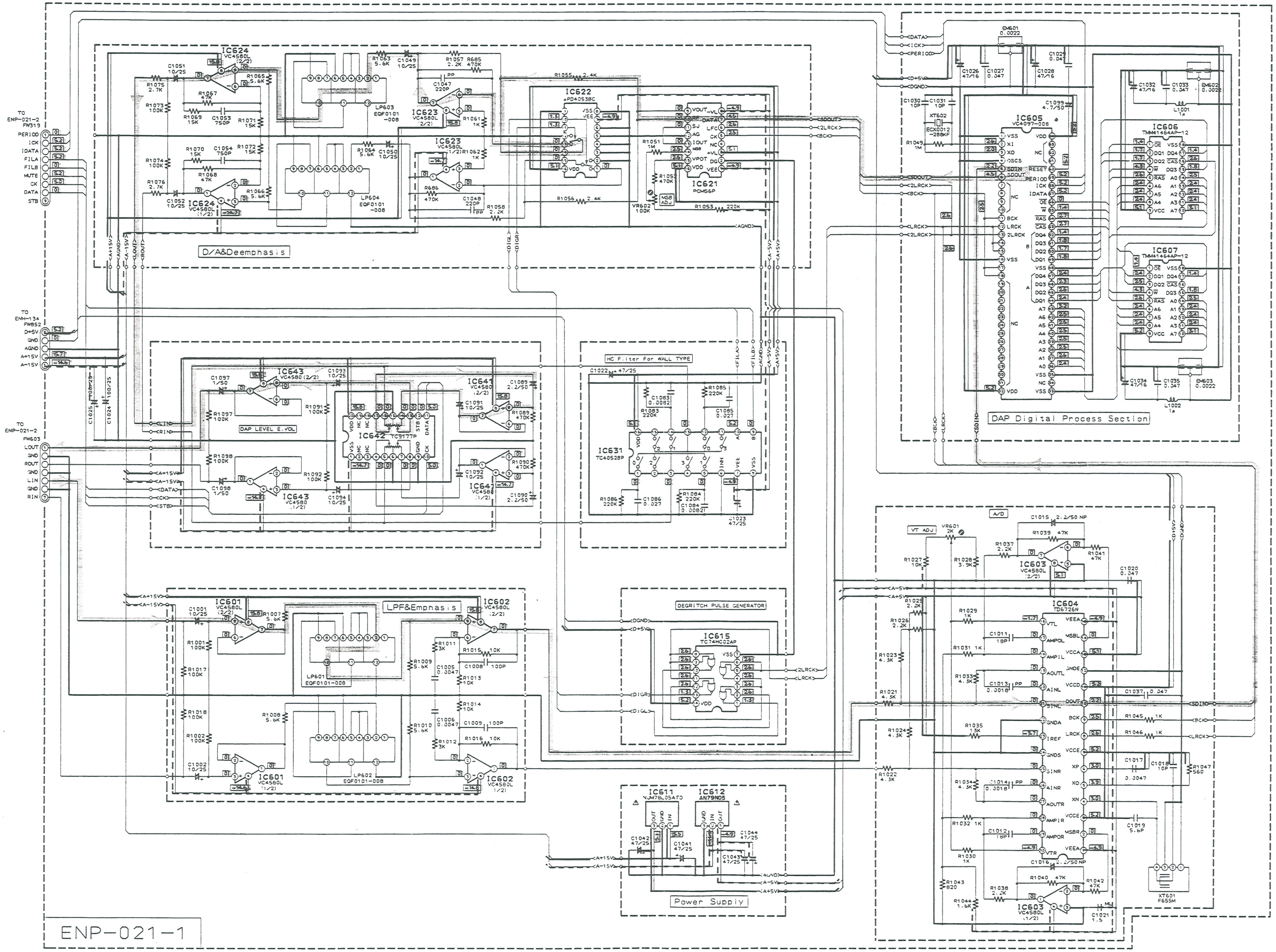
Schematic Diagram (6)

■ Surround Section


TO ENC-068
TO ENF-055
FW570
P591
IC672
VC4580L
(2/2)
IC671
VC4580L
(2/2)
Q622
2SC1685
Q621
2SC1685
IC666
NJM78L12ATO
IC665
LA2770
PRO LOGIC PROCESS
IC681
TC9163N
IC682
VC4580L
IC683
VC4580L
REAR L
REAR R
FRONT L
FRONT R
TO ENP
-021-1
P603
R SEND
GND
L SEND
GND
R RETURN
GND
L RETURN
IC672
VC4580L
(1/2)
IC671
VC4580L
(1/2)
TO ENC-074
P3002-⑤
TO ENC-074
P3002-④
IC675
μPC1571C
COMP
EXP
IC678
NJM78L05A
DIGITAL DELAY
IC673
VC4580L
(2/2)
TO ENC-074 ③
P3002-①
IC676
YM3426
XT603
ECX0003
-580KX
DOLBY B TYPE N.R
IC677
LA2730
IC674
VC4580L
IC673
VC4580L
(1/2)
D624, D625 MA700A
TO ENC-074
P3002-②
IC661
LC4966
Q615
DTA114
Q617
DTA114
Q616
DTC144
D615
MTZ
12
TO ENH-134
FW853
-15
+15
GND
GND
NOISE SEQUENCER
IC654
VC4580L
(1/2)
IC653
TC4052BP
IC654
VC4580L
(2/2)
Q606
DTA144Y
Q604
DTA144Y
Q605
DTC144E
Q603
DTC144E
IC652
VC4580L
(2/2)
IC652
VC4580L (1/2)
NOISE
LEVEL
ADJ
IC651
TC4011UBP
Q601
DTA114
YSTP
Q602
DTC144
ESTP
WIRE JUNCTION
P319
P651
P616
TO ENF-055-2
FW312
CK
DATA
STB
N.ON
NA
NB
MO
C.ON
MI
DIN
AO
SCI
FW313
TO ENF-055-2
D626-D628
1SS133
ENP-021-2

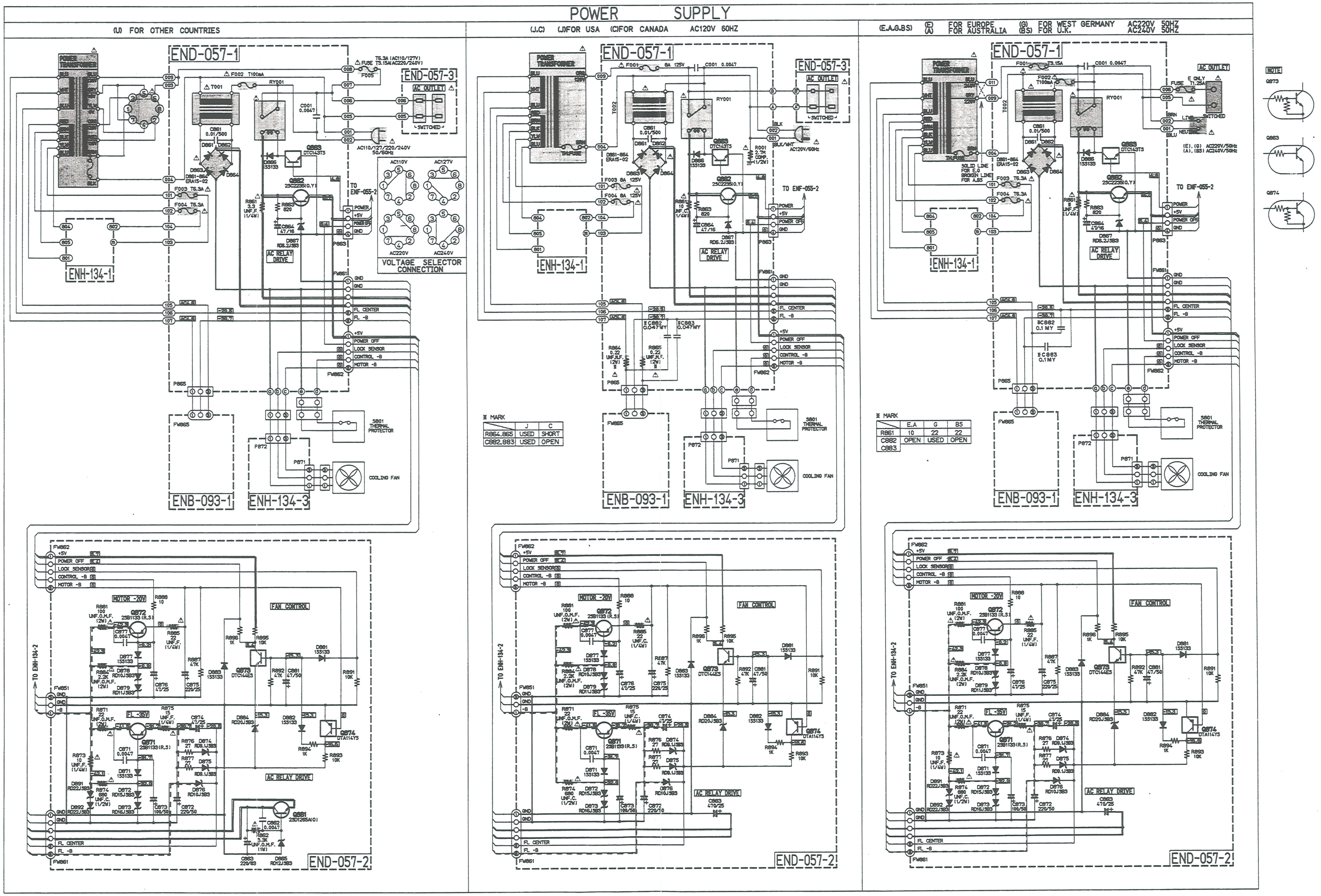
Schematic Diagrams (7)

■ DAP Section


D/A&Deemphasis
DAP LEVEL E.VOL
HC Filter For WALL TYPE
DAP Digital Process Section
A/D
LPF&Emphasis
DEGRITCH PULSE GENERATOR
Power Supply
ENP-021-1
IC624
IC623
IC622
IC621
IC605
IC606
IC607
IC641
IC642
IC643
IC631
IC601
IC602
IC603
IC604
IC615
IC611
IC612
TO ENP-021-2 FW319
TO ENH-134 FW852
TO ENP-021-2 FW603

Schematic Diagrams (8)

■ Power Supply Section


POWER SUPPLY
(U) FOR OTHER COUNTRIES
(J.C) (J)FOR USA (C)FOR CANADA AC120V 60HZ
(E.A.G.BS) (E) FOR EUROPE (A) FOR AUSTRALIA (G) FOR WEST GERMANY (BS) FOR U.K. AC220V 50HZ AC240V 50HZ
POWER TRANSFORMER
END-057-1
END-057-2
END-057-3
ENH-134-1
ENH-134-3
ENB-093-1
AC OUTLET
SWITCHED
AC RELAY DRIVE
FAN CONTROL
MOTOR -20V
FL -35V
COOLING FAN
S801 THERMAL PROTECTOR
TO ENF-055-2
TO ENH-134-2
VOLTAGE SELECTOR CONNECTION
AC110V
AC127V
AC220V
AC240V
NOTE
Q873
Q883
Q874

※ MARK

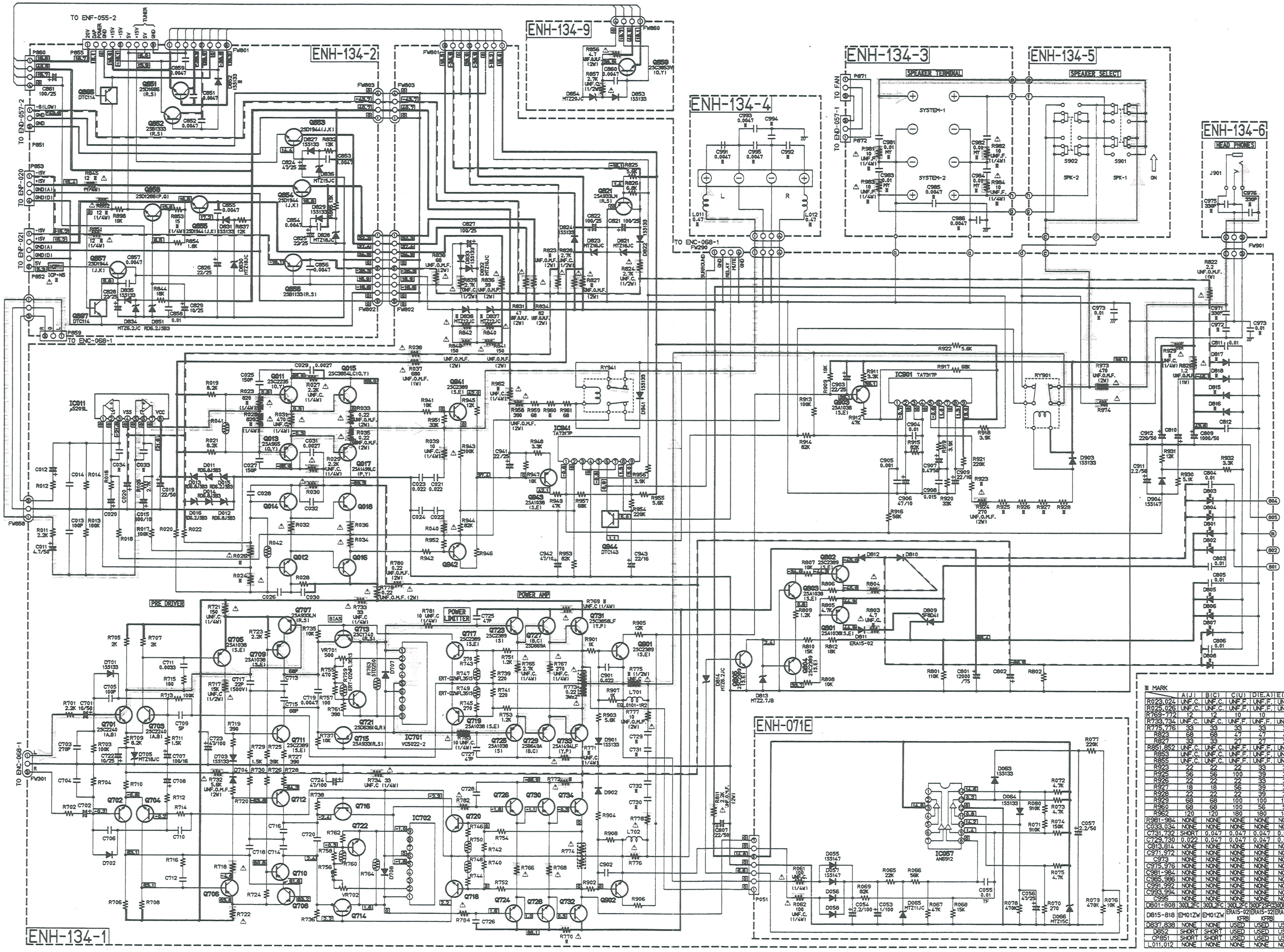
	J	C
R864.865	USED	SHORT
C882.883	USED	OPEN

※ MARK

	E.A	G	BS
R861	10	22	22
C882 C883	OPEN	USED	OPEN

Schematic Diagrams (3)

■ Power Amplifier Section

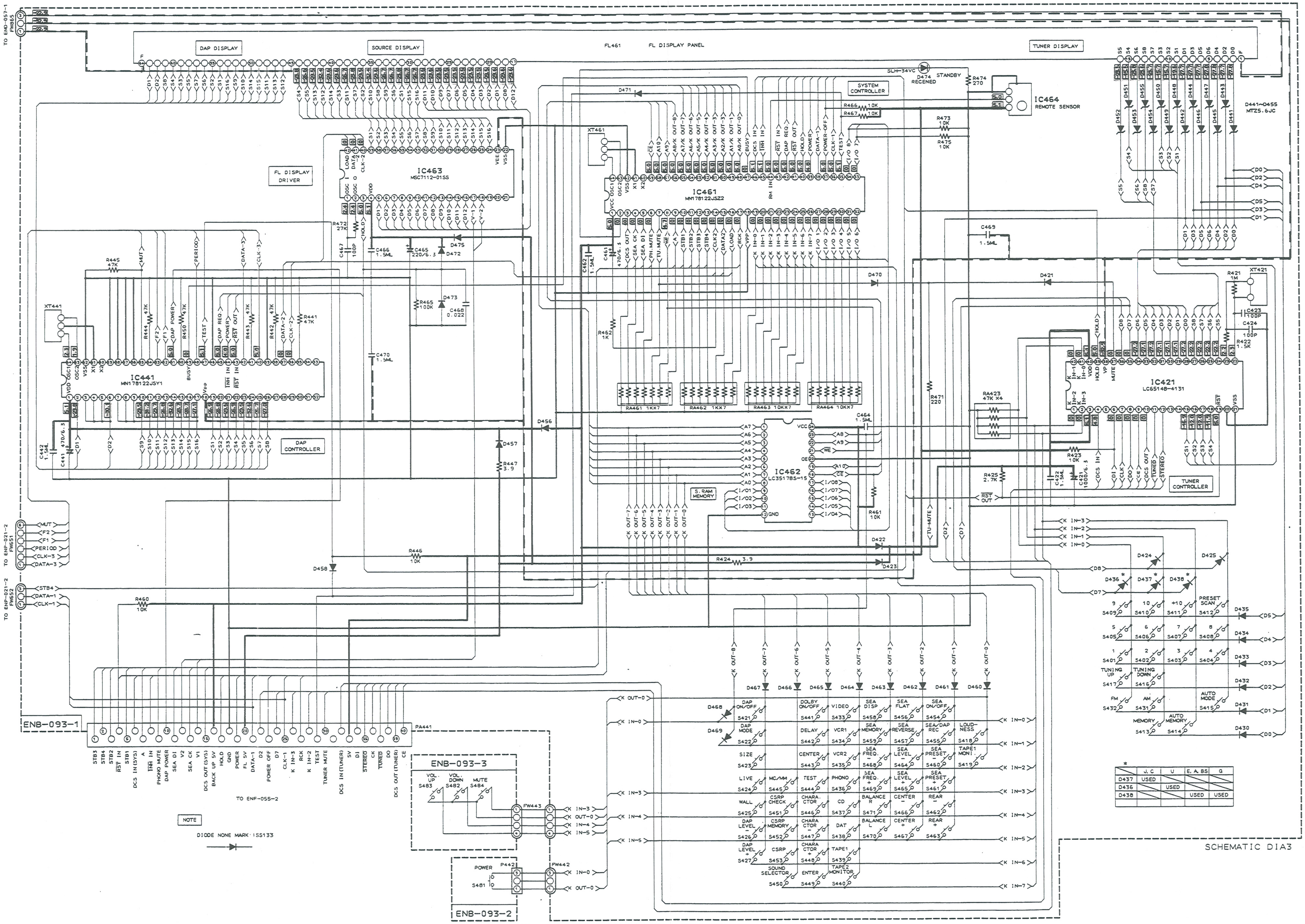

ENH-134-1
ENH-134-2
ENH-134-3
ENH-134-4
ENH-134-5
ENH-134-6
ENH-134-9
ENH-071E
TO ENF-055-2
TO END-057-2
TO ENP-020
TO ENP-021
TO ENC-068-1
TO END-057-1
TO FAN
SPEAKER TERMINAL
SPEAKER SELECT
HEAD PHONES
SYSTEM-1
SYSTEM-2
SPK-2
SPK-1
PRE DRIVER
POWER AMP
POWER LIMITTER
BIAS
IC701 VC5022-2
IC702
IC011 µ5205L
IC941 TA7317P
IC901 TA7317P
IC057 AN6912
RY941
RY901
J901
S902
S901

※ MARK

	A(J)	B(C)	C(U)	D(E.A)	E(B.S)	F(G)
R023,024	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R025,026	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R769-772	12	12	10	10	10	10
R733,734	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R775,776	33	33	33	33	33	47
R823	68	68	47	47	47	47
R827	33	33	27	27	27	27
R851,852	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R853	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R855	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
R923	22	22	22	33	33	33
R925	56	56	100	39	39	39
R926	22	22	22	33	33	33
R927	18	18	56	39	39	39
R928	22	22	22	39	39	39
R929	68	68	100	100	100	100
R960	68	68	100	56	56	56
R962	120	120	180	180	180	180
R981-984	NONE	NONE	NONE	NONE	NONE	USED
C033,034	NONE	NONE	NONE	NONE	NONE	USED
C731,732	SHORT	0.047	0.047	0.047	0.047	0.047
C729,730	0.022	0.047	0.047	0.047	0.047	0.047
C813,814	NONE	NONE	NONE	NONE	NONE	USED
C971,972	NONE	NONE	NONE	NONE	NONE	USED
C973	NONE	NONE	NONE	NONE	NONE	USED
C975,976	NONE	NONE	NONE	NONE	NONE	USED
C981-984	NONE	NONE	NONE	NONE	NONE	USED
C985,986	NONE	NONE	NONE	NONE	NONE	USED
C991,992	NONE	NONE	NONE	NONE	NONE	USED
C993,994	NONE	NONE	NONE	NONE	NONE	USED
C995	NONE	NONE	NONE	NONE	NONE	USED
D801-808	30DL2FC	30DL2FC	30DL2FC	30DF2SFC	30DF2SFC	30DF2SFC
D815-818	EM01ZW	EM01ZW	ERA15-02 KFRB	ERA15-02 KFRB	ERA15-02 KFRB	ERA15-02 KFRB
D837,838	NONE	NONE	USED	USED	USED	USED
D852	SHORT	SHORT	USED	USED	USED	USED
CP851	SHORT	SHORT	USED	USED	USED	USED
L011,012	NONE	NONE	NONE	NONE	NONE	USED

Schematic Diagrams (4)

■ Display & Control Section


TO ENO-057-1
FW655
FL461
FL DISPLAY PANEL
DAP DISPLAY
SOURCE DISPLAY
TUNER DISPLAY
SLH-34VC
D474 RECENED
STANDBY
R474 270
IC464 REMOTE SENSOR
D441~D455 MTZ5.6JC
SYSTEM CONTROLLER
IC463
MSC7112-01SS
FL DISPLAY DRIVER
XT461
IC461
MN178122JSZ2
IC441
MN178122JSY1
XT441
DAP CONTROLLER
IC462
LC35178S-15
S.RAM MEMORY
RA461 1KX7
RA462 1KX7
RA463 10KX7
RA464 10KX7
IC421
LC6514B-4131
XT421
TUNER CONTROLLER
RA423 47K X4
TO ENP-021-2
FW651
FW652
MUT
F2
F1
PERIOD
CLK-3
DATA-3
STB4
DATA-1
CLK-1
ENB-093-1
PA441
STB3
STB4
STB2
RST IN
STB1
DCS IN(SYS)
A
INH IN
PHONO MUTE
DAP POWER
SEA DI
V2
SEA CK
V1
DCS OUT(SYS)
BACK UP 5V
HOLD
GND
POWER
FL 5V
POWER OFF
D2
D7
DATA-1
CLK-1
K IN-3
RCK
K IN-2
TEST
TUNER MUTE
DCS IN(TUNER)
5V
DI
STEREO
CK
TUNED
DO
DCS OUT(TUNER)
CE
TO ENF-055-2
NOTE
DIODE NONE MARK : 1SS133
ENB-093-3
VOL. UP S483
VOL. DOWN S482
MUTE S484
FW443
ENB-093-2
POWER S481
P442
FW442
K IN-3
K OUT-0
K IN-4
K IN-5
K IN-0
K OUT-0
K OUT-8
K OUT-7
K OUT-6
K OUT-5
K OUT-4
K OUT-3
K OUT-2
K OUT-1
K OUT-0
D467 D466 D465 D464 D463 D462 D461 D460
D468 D469
DAP ON/OFF S421
DAP MODE S422
SIZE S423
LIVE S424
WALL S425
DAP LEVEL - S426
DAP LEVEL + S427
DOLBY ON/OFF S441
DELAY S442
CENTER S443
MC/MM S445
CSRP CHECK S451
CSRP MEMORY S452
CSRP S453
SOUND SELECTOR S450
VIDEO S433
VCR1 S434
VCR2 S435
TEST S444
CHARA-CTOR S446
CHARA CTOR S447
CHARA CTOR S448
ENTER S449
PHONO S436
CD S437
DAT S438
TAPE1 S439
TAPE2 MONITOR S440
SEA DISP S458
SEA MEMORY S459
SEA FREQ. - S468
SEA FREQ. + S469
BALANCE R S471
BALANCE L S470
SEA FLAT S456
SEA REVERSE S457
SEA LEVEL - S464
SEA LEVEL + S465
CENTER - S466
CENTER + S467
SEA ON/OFF S454
SEA/DAP REC S455
SEA PRESET - S460
SEA PRESET + S461
REAR - S462
REAR + S463
LOUD-NESS S418
TAPE1 MONI. S419
K IN-0
K IN-1
K IN-2
K IN-3
K IN-4
K IN-5
K IN-6
K IN-7
K IN-3
K IN-2
K IN-1
K IN-0
D8
D7
D424
D425
D436
D437
D438
9 S409
10 S410
+10 S411
PRESET SCAN S412
5 S405
6 S406
7 S407
8 S408
1 S401
2 S402
3 S403
4 S404
TUNING UP S417
TUNING DOWN S416
FM S432
AM S431
AUTO MODE S415
MEMORY S413
AUTO MEMORY S414
D435 D434 D433 D432 D431 D430
D5 D4 D3 D2 D1 D0
SCHEMATIC DIA3

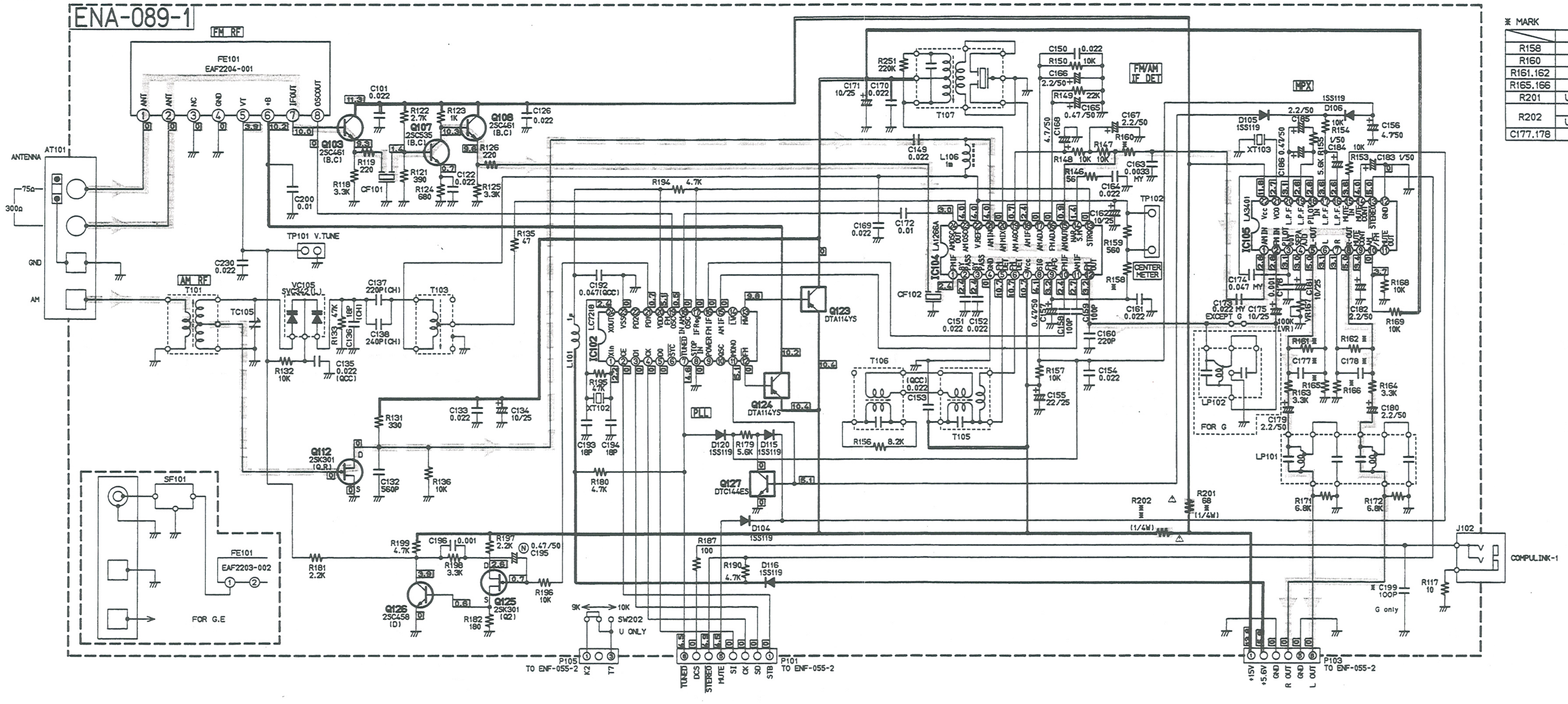
*	J, C	U	E, A, BS	Q
D437	USED			
D436		USED		
D438			USED	USED

(No. 20128) (No. 20128)

Schematic Diagrams (1)

■ Tuner Section

RX-1010VTN/RX-901VBK


ENA-089-1
FM RF
FE101
EAF2204-001
ANTENNA
AT101
75Ω
300Ω
GND
AM
AM RF
T101
TC105
VC105
TP101 V.TUNE
T103
IC102 LC7218
PLL
Q123 DTA114YS
Q124 DTA114YS
Q127 DTC144ES
Q103 2SC461
Q107 2SC535
Q108 2SC461
Q112 2SK301
Q125 2SK301
Q126 2SC458
SF101
FE101
EAF2203-002
FOR G.E
FM/AM IF DET
IC104 LA1266A
T107
T106
T105
CF102
TP102
CENTER METER
MPX
IC105 LA3401
XT103
LP102
FOR G
LP101
J102
COMPULINK-1
SW202
9K
10K
U ONLY
P105 TO ENF-055-2
P101 TO ENF-055-2
P103 TO ENF-055-2
TUNED
DCS
STEREO
MUTE
SI
CK
SO
STB
+15V
+5.6V
GND
R OUT
GND
L OUT

※ MARK

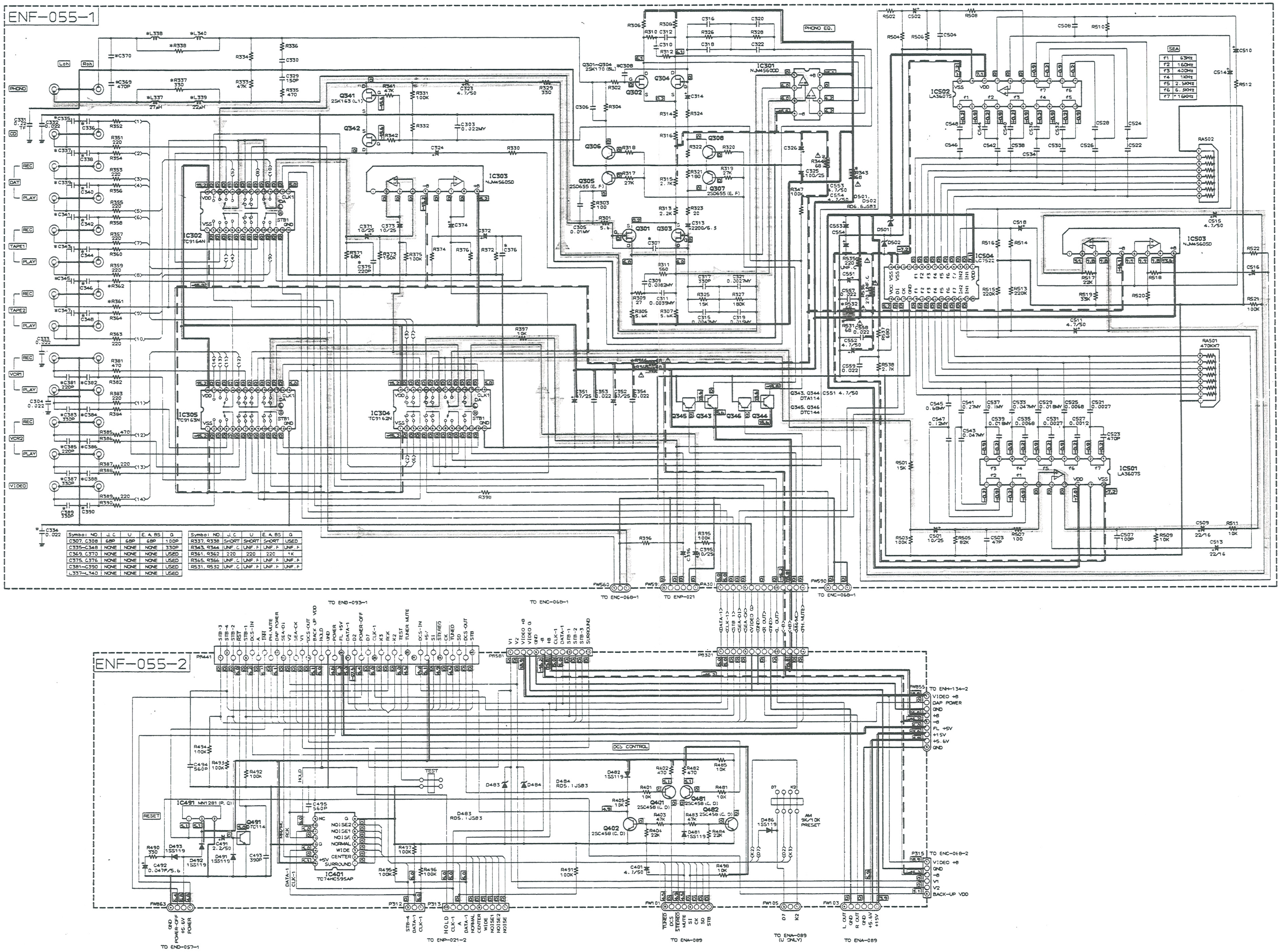
	J.C	U	A.E.BS	G
R158	18K	27K	27K	27K
R160	12K	12K	27K	27K
R161.162	120K	120K	180K	180K
R165.166	180K	180K	270K	270K
R201	UNF.C.	UNF.C.	UNF.F.	UNF.F.
R202	47	47	47	22
	UNF.C.	UNF.C.	UNF.F.	UNF.F.
C177.178	560P	560P	270P	270P

Notes:

1. —— indicates + B power supply.
2. - - - indicates − B power supply.
3. ▨ indicates signal path.
4. ▭ shows DC voltage to the chassis with no signal input.
5. When replacing the parts in the darkened area (▨) and those marked with ⚠, be sure use to designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

Schematic Diagrams (2)

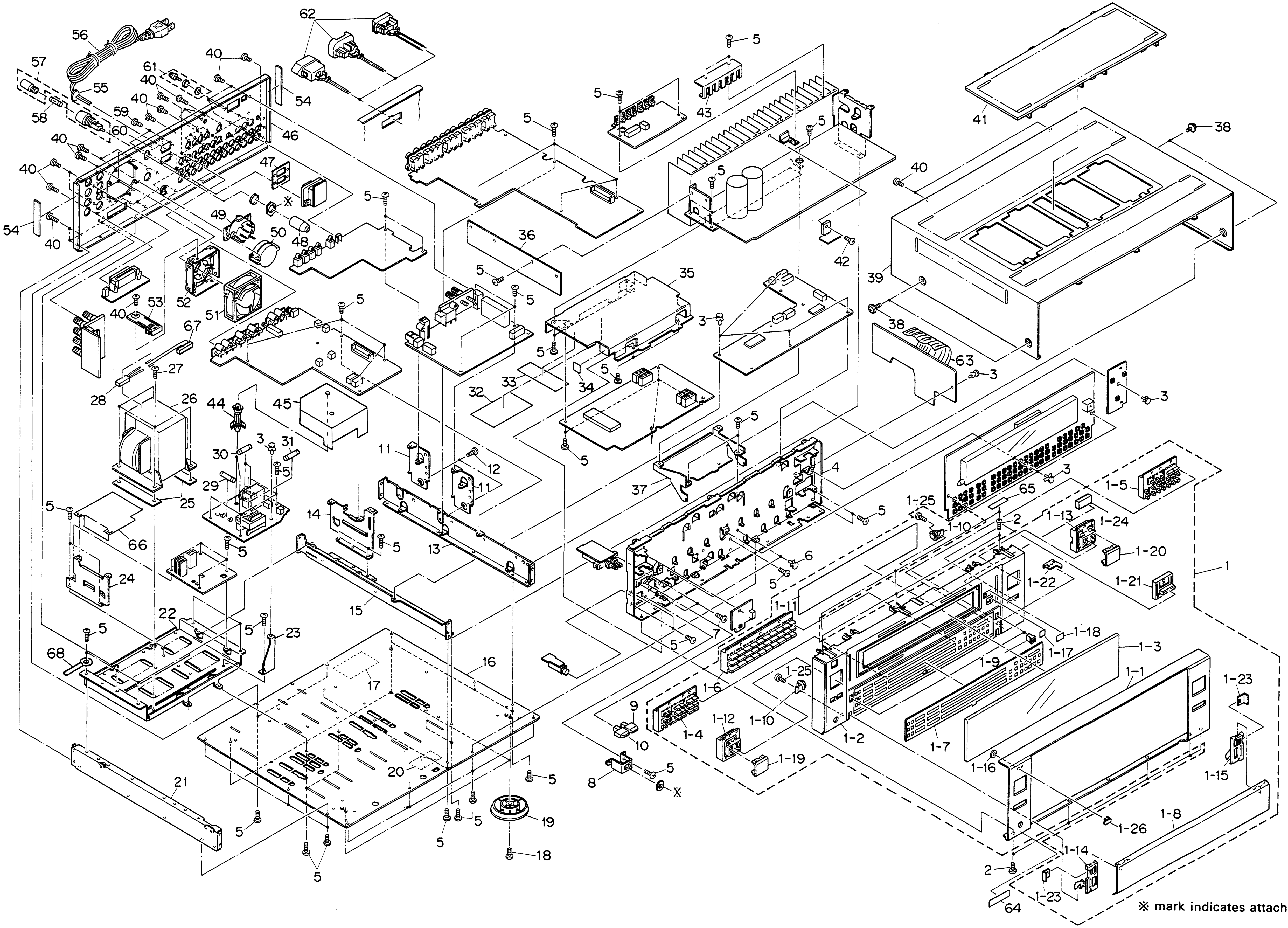
■ Source Selector & SEA Section


ENF-055-1
ENF-055-2
PHONO
CD
DAT
TAPE1
TAPE2
VCR1
VCR2
VIDEO
REC
PLAY
PHONO EQ.
SEA
IC301 NJM4560DD
IC302 TC9164N
IC303 NJM4560SD
IC304 TC9162N
IC305 TC9163N
IC501 LA3607S
IC502 LA3607S
IC503 NJM4560SD
IC504 LC7522
IC401 TC74HC595AP
IC491 MN1281 (P, Q)
DCS CONTROL
RESET
TO ENC-068-1
TO ENP-021
TO ENB-093-1
TO ENC-068-1
TO ENH-134-2
TO ENC-068-2
TO END-057-1
TO ENP-021-2
TO ENA-089
TO ENA-089 (U ONLY)

Symbol NO.	J. C	U	E. A. BS	G
C307, C308	68P	68P	68P	100P
C335~C348	NONE	NONE	NONE	330P
C369, C370	NONE	NONE	NONE	USED
C375, C376	NONE	NONE	NONE	USED
C381~C390	NONE	NONE	NONE	USED
L337~L340	NONE	NONE	NONE	USED

Symbol NO.	J. C	U	E. A. BS	G
R337, R338	SHORT	SHORT	SHORT	USED
R343, R344	UNF. C	UNF. F	UNF. F	UNF. F
R361, R362	220	220	220	1K
R365, R366	UNF. C	UNF. F	UNF. F	UNF. F
R531, R532	UNF. C	UNF. F	UNF. F	UNF. F

Exploded View and Parts List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68
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18
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63
3
3
37
5
4
5
3
65
1-5
1-25
1-10
2
1-13
1-24
1-20
1
1-21
6
5
1-22
1-11
7
5
1-18
1-17
1-3
1-9
1-1
1-23
1-25
1-6
9
1-10
10
1-4
1-12
1-19
1-2
1-7
1-16
1-15
5
8
※
1-8
1-26
1-14
2
1-23
64

※ mark indicates attached part.

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-RX1010VTNE	Front Panel Ass'y	1		
	1-1	E12058-001	Front Panel	1		
	1-2	E12060-001	Front Base	1		
	1-3	E26491-001	Window Screen	1		
	1-4	E26493-001	Push Button	1	SEA	
	1-5	E26494-001	Push Button	1	PRESET	
	1-6	E26495-001	Push Button	1	SOURCE	
	1-7	E26496-003	Switch Plate	1		
	1-8	E26498-001	Door	1		
	1-9	E305513-001	Magnet	2		
	1-10	E305654-004	Damper Ass'y	2		
	1-11	E306243-001	FL Screen	1		
	1-12	E306244-001	Button Base	1	Left	
	1-13	E306245-001	Button Base	1	Right	
	1-14	E306246-001	Hinge	1	Left	
	1-15	E306246-002	Hinge	1	Right	
	1-16	E60912-003	Speed Nut	1		
	1-17	E72436-006	Screen	1		
	1-18	E72437-006	Sheet	1		
	1-19	E75467-001	Button Cap	1	Left	
	1-20	E75467-002	Button Cap	1	Right	
	1-21	E75469-001	Push Button	1	MUTE	
	1-22	E75470-002	Earth Plate	1		
	1-23	E75474-001	Hinge Plate	2		
	1-24	E75756-001	Screen	1		
	1-25	SBSF3008Z	Screw	2		
	1-26	E72968-001	JVC Mark	1		
	2	E74304-001	Special Screw	5		
	3	E48729-008	Plastic Rivet	10		
	4	E12061-001	Front Bracket	1		
	5	SBSG3008CC	Screw	74		
	6	E48729-007	Plastic Rivet	3		
	7	SBST3006CC	Screw	2		
	8	E75471-001	Headphone Bracket	1		
	9	E75073-005	Push Button	1		
	10	E75073-004	Push Button	1		
	11	E75472-001	Stay Bracket	2		
	12	E74304-002	Special Screw	2		
	13	E306251-001	Side Bracket	1	Right	
	14	E306247-001	Circuit Board Bracket	1	(R)	
	15	E305166-002	Center Bracket	1		
	16	E11647-002	Bottom Plate	1		
	17	E74925-001	Dolby Sheet	1		
	18	GBST3008CC	Screw	4		
	19	E75088-015	Foot Ass'y	4		
	20	E70281-001	Caution Label	1		J
		E70115-002	Caution Label	1		A,E,G,BS
	21	E305167-002	Side Bracket	1	Left	
	22	E25914-001	Trans Bracket	1		
	23	E74547-001	Bracket	1		
	24	E305208-001	Circuit Board Bracket	1		
	25	E74978-001	Spacer	2		J,C
⚠	26	ETP1200-38JA	Power Transformer	1		J
⚠		ETP1200-38CA	Power Transformer	1		C
⚠		ETP1200-38FA	Power Transformer	1		U
⚠		ETP1200-38EA	Power Transformer	1		A,E
⚠		ETP1200-38EABS	Power Transformer	1		BS
⚠		ETP1200-38XA	Power Transformer	1		G
	27	E65389-006	Special Screw	4		
	28	T70AR1U1	Thermal Protect	1	S801	
⚠	29	QMF51A2-R10S	Fuse	1	F002	A,E,G,U
⚠		QMF51E2-R10SBS	Fuse	1	F002	BS
⚠	30	QMF51U1-8R0S	Fuse	1	F003,F004	J,C
⚠		QMF51A2-6R3S	Fuse	1	F003,F004	A,E,G,U
⚠		QMF51E2-6R3SBS	Fuse	1	F003,F004	BS
⚠	31	QMF51U1-6R3S	Fuse	1	F001	J,C
⚠		QMF51A2-3R15S	Fuse	1	F001	A,E,G,U
⚠		QMF51E2-3R15SBS	Fuse	1	F001	BS
	32	E74949-001	Shield Plate	1		
	33	E75045-001	Spacer	1		G
	34	E74404-002	Spacer	1		G
	35	E25915-001	Bracket	1		
	36	E74832-001	Protect Sheet	1		
	37	E306250-001	Shield Bracket	1		
	38	E61660-004	Special Screw	4		
	39	E12062-001	Metal Cover	1		J,C,A,G
		E12063-003	Metal Cover	1		E,U,BS
	40	SBSG3008M	Screw	36		Except G,U
		SBSG3008M	Screw	37		G
		SBSG3008M	Screw	38		U
	41	E24134-007	Grill	1		E,U,BS
	42	E73525-001	Screw	1		
	43	E74550-001	Leaf Spring	1		
	44	E302321-001	Fastener	2		Except J,C
	45	E306274-001	Primary Cover	1		Except J,C
	46	E26500-008	Rear Panel	1		J,C
		E26500-009	Rear Panel	1		U
		E26500-010	Rear Panel	1		E
		E26500-011	Rear Panel	1		A,BS
		E26500-012	Rear Panel	1		G
	47	E69589-008	Spacer	1		J
	48	E69291-001	Fuse Cover	1		E,U
	49	QSR0085-009	Voltage Selector	1		U
	50	E302764-001	Voltage Selector Cover	1		U
	51	MMF-06C24DL-RA1	DC Fan Motor	1		
	52	E306248-002	Fan Plate	1		
	53	E75473-002	Bracket	1		Except U
		E75473-003	Bracket	1		U
	54	EXO085010R10S	Spacer	2		
⚠	55	QHS3876-162	Cord Stopper	1		Except BS
⚠		QHS3876-162BS	Cord Stopper	1		BS
⚠	56	QMP1D00-200H	Power Cord	1		J,C
⚠		QMP7520-200	Power Cord	1		U
⚠		QMP3900-200	Power Cord	1		E
⚠		QMP2560-244	Power Cord	1		A
⚠		QMP9017-008BS	Power Cord	1		BS
⚠		QMP39A0-200	Power Cord	1		G
	57	QMG0301-003	Fuse Holder	1		E,U
⚠	58	QMF51A2-3R15S	Fuse	1		U
⚠		QMF51A2-1R25S	Fuse	1		E
	59	SDSG3008M	Screw	3		Except J,C,U
		SDSG3008M	Screw	5		J,C,U
	60	E67199-001	Caution Label	1		J
		E65507-001	Caution Label	1		C
	61	E70078-001	GND Terminal	1		
⚠	62	EMC0236-001	AC Socket	1		E,G
⚠		EMC0233-001	AC Outlet	1		A
⚠		EMC0237-001BS	AC Outlet	1		BS
	63	EWR1YE-32PP	Flat Wire	1	FW441	
	64	E49267-001	Origin Making Label	1		BS
	65	EXO028008H02S	Spacer	3		
	66	E306410-001	Protect Cover	1		Except J,C
	67	EWS102-005	Socket Wire Ass'y	1		
	68	PU49485-1	Clamper	1		

⚠ Safety Parts

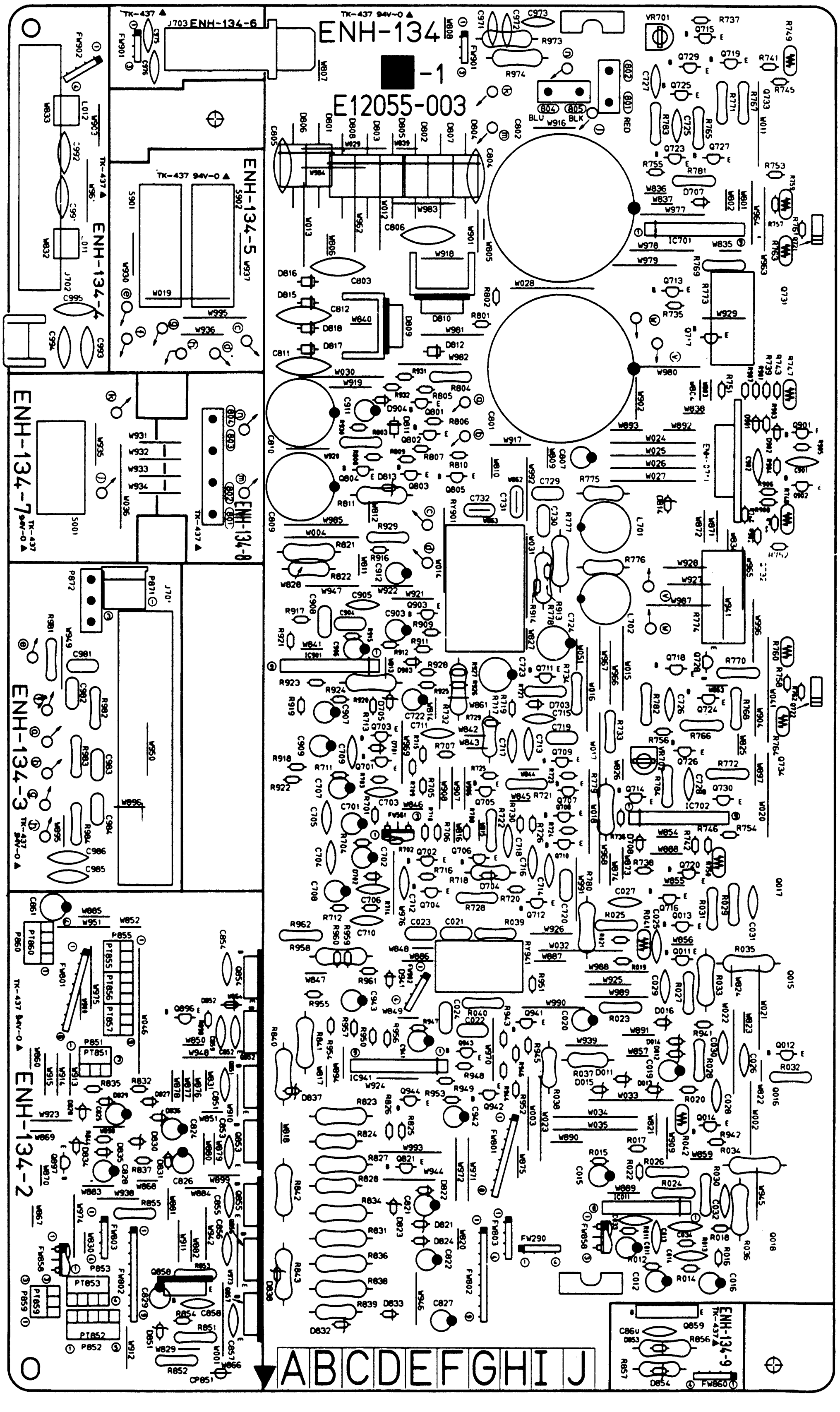
The Marks for Designated Areas

J················the U.S.A.
C················Canada
A················Australia
E················Europe
G················West Germany
BS················the U.K.
U················Other Countries
No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

■ENH-134□ Power Amplifier PC Board Ass'y

Note : ENH-134□ varies according to the areas employed. See note (1) when placing an order.


ENH-134■-1
E12055-003
ENH-134-6
ENH-134-5
ENH-134-4
ENH-134-7
ENH-134-8
ENH-134-3
ENH-134-2
ENH-134-9
TK-437 94V-0 ▲
IC701
IC702
IC941
IC801
VR701
L701
L702
S901
S902
S001
A
B
C
D
E
F
G
H
I
J

Note (1)

PC Board Ass'y	Designated Areas
ENH-134 A	the U.S.A.
ENH-134 B	Canada
ENH-134 C	Other Countries
ENH-134 D	Australia, Europe
ENH-134 E	the U.K.
ENH-134 F	West Germany

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q011	2SC2235(O,Y)	SILICON TOSHIBA	
	Q012	2SC2235(O,Y)	SILICON TOSHIBA	
	Q013	2SA965(O,Y)	SILICON TOSHIBA	
	Q014	2SA965(O,Y)	SILICON TOSHIBA	
	Q015	2SC3854LC(P,Y)	SILICON SANKEN	
	Q016	2SC3854LC(P,Y)	SILICON SANKEN	
	Q017	2SA1490LC(P,Y)	SILICON SANKEN	
	Q018	2SA1490LC(P,Y)	SILICON SANKEN	
	Q701	2SC2240(A,B)	SILICON TOSHIBA	
	Q702	2SC2240(A,B)	SILICON TOSHIBA	
	Q703	2SC2240(A,B)	SILICON TOSHIBA	
	Q704	2SC2240(A,B)	SILICON TOSHIBA	
	Q705	2SA1038(S,E)	SILICON ROHM	
	Q706	2SA1038(S,E)	SILICON ROHM	
	Q707	2SA933LN(R,S)	SILICON ROHM	
	Q708	2SA933LN(R,S)	SILICON ROHM	
	Q709	2SA1038(S,E)	SILICON ROHM	
	Q710	2SA1038(S,E)	SILICON ROHM	
	Q711	2SC2389(S,E)	SILICON ROHM	
	Q712	2SC2389(S,E)	SILICON ROHM	
	Q713	2SC1740(R,S)	SILICON ROHM	
	Q714	2SC1740(R,S)	SILICON ROHM	
	Q715	2SA933LN(R,S)	SILICON ROHM	
	Q716	2SA933LN(R,S)	SILICON ROHM	
	Q717	2SC2389(S,E)	SILICON ROHM	
	Q718	2SC2389(S,E)	SILICON ROHM	
	Q719	2SA1038(S,E)	SILICON ROHM	
	Q720	2SA1038(S,E)	SILICON ROHM	
	Q721	2SD636(Q,R)	SILICON MATSUSHITA	
	Q722	2SD636(Q,R)	SILICON MATSUSHITA	
	Q723	2SC2389(S)	SILICON ROHM	
	Q724	2SC2389(S)	SILICON ROHM	
	Q725	2SA1038(S)	SILICON ROHM	
	Q726	2SA1038(S)	SILICON ROHM	
	Q727	2SD669A(B,C)	SILICON HITACHI	
	Q728	2SD669A(B,C)	SILICON HITACHI	
	Q729	2SB649A(B,C)	SILICON HITACHI	
	Q730	2SB649A(B,C)	SILICON HITACHI	
	Q731	2SC3858LF(Y,P)	SILICON SANKEN	
	Q732	2SC3858LF(Y;P)	SILICON SANKEN	
	Q733	2SA1494LF(Y,P)	SILICON SANKEN	
	Q734	2SA1494LF(Y,P)	SILICON SANKEN	
	Q801	2SA1038(S,E)	SILICON ROHM	
	Q802	2SC2389(S,E)	SILICON ROHM	
	Q803	2SA1038(S,E)	SILICON ROHM	
	Q804	2SC2389(S,E)	SILICON ROHM	
	Q805	2SC2389(S,E)	SILICON ROHM	
	Q821	2SA933LN(R,S)	SILICON ROHM	
	Q851	2SD1666(R,S)	SILICON SANYO	
	Q852	2SB1133(R,S)	SILICON SANYO	
	Q853	2SD1944(J,K)	SILICON ROHM	
	Q854	2SD1944(J,K)	SILICON ROHM	
	Q855	2SD1944(J,K)	SILICON ROHM	
	Q856	2SB1133(R,S)	SILICON SANYO	
	Q857	2SD1944(J,K)	SILICON ROHM	
	Q858	2SD1266(P,Q)	SILICON MATSUSHITA	
	Q859	2SC3853V(O,Y)	SILICON SANKEN	
	Q896	DTC114YS	SILICON ROHM	
	Q897	DTC114YS	SILICON ROHM	
	Q901	2SC2389(S,E)	SILICON ROHM	
	Q902	2SC2389(S,E)	SILICON ROHM	
	Q903	2SA1038(S,E)	SILICON ROHM	
	Q941	2SC2389(S,E)	SILICON ROHM	
	Q942	2SC2389(S,E)	SILICON ROHM	
	Q943	2SA1038(S,E)	SILICON ROHM	
	Q944	DTC143TS	SILICON ROHM	

⚠ SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC011	M5209L	I.C. MITSUBISHI	
	IC701	VC5022-2	I.C. SANYO	
	IC702	VC5022-2	I.C. SANYO	
	IC901	TA7317P	I.C. TOSHIBA	
	IC941	TA7317P	I.C. TOSHIBA	

⚠ SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D011	RD6.8JSB3	ZENER NEC	
	D012	RD6.8JSB3	ZENER NEC	
	D013	RD6.8JSB3	ZENER NEC	
	D014	RD6.8JSB3	ZENER NEC	
	D015	RD6.2JSB3	ZENER NEC	
	D016	RD6.2JSB3	ZENER NEC	
	D701	1SS133	SILICON ROHM	
	D702	1SS133	SILICON ROHM	
	D703	1SS133	SILICON ROHM	
	D704	1SS133	SILICON ROHM	
	D705	MTZ18JC	ZENER ROHM	
	D707	1SS133	SILICON ROHM	
	D708	1SS133	SILICON ROHM	
	D801	30DL2FC	SILICON NIHONINTER	A
	D801	30DL2FC	SILICON NIHONINTER	B
	D801	30DF2SFC	SILICON NIHONINTER	C
	D801	30DF2SFC	SILICON NIHONINTER	D
	D801	30DF2SFC	SILICON NIHONINTER	E
	D801	30DF2SFC	SILICON NIHONINTER	F
	D802	30DL2FC	SILICON NIHONINTER	A
	D802	30DL2FC	SILICON NIHONINTER	B
	D802	30DF2SFC	SILICON NIHONINTER	C
	D802	30DF2SFC	SILICON NIHONINTER	D
	D802	30DF2SFC	SILICON NIHONINTER	E
	D802	30DF2SFC	SILICON NIHONINTER	F
	D803	30DL2FC	SILICON NIHONINTER	A
	D803	30DL2FC	SILICON NIHONINTER	B
	D803	30DF2SFC	SILICON NIHONINTER	C
	D803	30DF2SFC	SILICON NIHONINTER	D
	D803	30DF2SFC	SILICON NIHONINTER	E
	D803	30DF2SFC	SILICON NIHONINTER	F
	D804	30DL2FC	SILICON NIHONINTER	A
	D804	30DL2FC	SILICON NIHONINTER	B
	D804	30DF2SFC	SILICON NIHONINTER	C
	D804	30DF2SFC	SILICON NIHONINTER	D
	D804	30DF2SFC	SILICON NIHONINTER	E
	D804	30DF2SFC	SILICON NIHONINTER	F
	D805	30DL2FC	SILICON NIHONINTER	A
	D805	30DL2FC	SILICON NIHONINTER	B
	D805	30DF2SFC	SILICON NIHONINTER	C
	D805	30DF2SFC	SILICON NIHONINTER	D
	D805	30DF2SFC	SILICON NIHONINTER	E
	D805	30DF2SFC	SILICON NIHONINTER	F
	D806	30DL2FC	SILICON NIHONINTER	A
	D806	30DL2FC	SILICON NIHONINTER	B
	D806	30DF2SFC	SILICON NIHONINTER	C
	D806	30DF2SFC	SILICON NIHONINTER	D
	D806	30DF2SFC	SILICON NIHONINTER	E
	D806	30DF2SFC	SILICON NIHONINTER	F
	D807	30DL2FC	SILICON NIHONINTER	A
	D807	30DL2FC	SILICON NIHONINTER	B
	D807	30DF2SFC	SILICON NIHONINTER	C
	D807	30DF2SFC	SILICON NIHONINTER	D
	D807	30DF2SFC	SILICON NIHONINTER	E
	D807	30DF2SFC	SILICON NIHONINTER	F
	D808	30DL2FC	SILICON NIHONINTER	A
	D808	30DL2FC	SILICON NIHONINTER	B
	D808	30DF2SFC	SILICON NIHONINTER	C
	D808	30DF2SFC	SILICON NIHONINTER	D
	D808	30DF2SFC	SILICON NIHONINTER	E
	D808	30DF2SFC	SILICON NIHONINTER	F
	D809	SF8D41	THYRISTOR TOSHIBA	
	D810	SF8D41	THYRISTOR TOSHIBA	
⚠	D811	ERA15-02L19	SILICON KYOUDOU	
⚠	D812	ERA15-02L19	SILICON KYOUDOU	
	D813	MTZ2.7JB	ZENER ROHM	
	D814	MTZ6.2JC	ZENER ROHM	
	D815	EM01ZW	SI.DIODE SANKEN	A
	D815	EM01ZW	SI.DIODE SANKEN	B
⚠	D815	ERA15-02L19	SILICON KYOUDOU	C
⚠	D815	ERA15-02L19	SILICON KYOUDOU	D
⚠	D815	ERA15-02L19	SILICON KYOUDOU	E
⚠	D815	ERA15-02L19	SILICON KYOUDOU	F
	D816	EM01ZW	SI.DIODE SANKEN	A
	D816	EM01ZW	SI.DIODE SANKEN	B
⚠	D816	ERA15-02L19	SILICON KYOUDOU	C
⚠	D816	ERA15-02L19	SILICON KYOUDOU	D
⚠	D816	ERA15-02L19	SILICON KYOUDOU	E
⚠	D816	ERA15-02L19	SILICON KYOUDOU	F
	D817	EM01ZW	SI.DIODE SANKEN	A

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D817	EM01ZW	SI.DIODE	SANKEN	B
⚠	D817	ERA15-02L19	SILICON	KYOUDOU	C
⚠	D817	ERA15-02L19	SILICON	KYOUDOU	D
⚠	D817	ERA15-02L19	SILICON	KYOUDOU	E
⚠	D817	ERA15-02L19	SILICON	KYOUDOU	F
	D818	EM01ZW	SI.DIODE	SANKEN	A
	D818	EM01ZW	SI.DIODE	SANKEN	B
⚠	D818	ERA15-02L19	SILICON	KYOUDOU	C
⚠	D818	ERA15-02L19	SILICON	KYOUDOU	D
⚠	D818	ERA15-02L19	SILICON	KYOUDOU	E
⚠	D818	ERA15-02L19	SILICON	KYOUDOU	F
	D821	MTZ16JC	ZENER	ROHM	
	D822	1SS133	SILICON	ROHM	
	D823	MTZ16JC	ZENER	ROHM	
	D824	1SS133	SILICON	ROHM	
	D827	1SS133	SILICON	ROHM	
	D828	MTZ18JC	ZENER	ROHM	
	D829	1SS133	SILICON	ROHM	
	D830	MTZ18JC	ZENER	ROHM	
	D831	1SS133	SILICON	ROHM	
	D832	MTZ16JC	ZENER	ROHM	
	D833	1SS133	SILICON	ROHM	
	D834	MTZ6.2JC	ZENER	ROHM	
	D835	1SS133	SILICON	ROHM	
	D836	MTZ15JC	ZENER	ROHM	
	D837	MTZ15JC	ZENER	ROHM	C
	D837	MTZ12JC	ZENER	ROHM	D
	D837	MTZ12JC	ZENER	ROHM	E
	D837	MTZ12JC	ZENER	ROHM	F
	D838	MTZ15JC	ZENER	ROHM	C
	D838	MTZ12JC	ZENER	ROHM	D
	D838	MTZ12JC	ZENER	ROHM	E
	D838	MTZ12JC	ZENER	ROHM	F
	D851	RD6.2JSB3	ZENER	NEC	
	D852	1SS133	SILICON	ROHM	C
	D852	1SS133	SILICON	ROHM	D
	D852	1SS133	SILICON	ROHM	E
	D852	1SS133	SILICON	ROHM	F
	D853	1SS133	SILICON	ROHM	
	D854	MTZ20JC	ZENER	ROHM	
	D901	1SS133	SILICON	ROHM	
	D902	1SS133	SILICON	ROHM	
	D903	1SS133	SILICON	ROHM	
	D904	1SS133	SILICON	ROHM	
	D941	1SS133	SILICON	ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C011	QETB1HM-475	4.7MF	50V	ELECTRO	
	C012	QETB1HM-475	4.7MF	50V	ELECTRO	
	C013	QCS21HJ-101	100PF	50V	CERAMIC	
	C014	QCS21HJ-101	100PF	50V	CERAMIC	
	C015	QETB1AM-107	100MF	10V	ELECTRO	
	C016	QETB1AM-107	100MF	10V	ELECTRO	
	C019	QEHB1HM-226	22MF	50V	ELECTRO	
	C020	QEHC1HM-226	22MF	50V	ELECTRO	
	C021	QFN81HK-223	0.022MF	50V	MYLAR	
	C022	QFN81HK-223	0.022MF	50V	MYLAR	
	C023	QFN81HK-223	0.022MF	50V	MYLAR	
	C024	QFN81HK-223	0.022MF	50V	MYLAR	
	C025	QCS21HJ-151	150PF	50V	CERAMIC	
	C026	QCS21HJ-151	150PF	50V	CERAMIC	
	C027	QCS21HJ-151	150PF	50V	CERAMIC	
	C028	QCS21HJ-151	150PF	50V	CERAMIC	
	C029	QCY21HK-272	2700PF	50V	CERAMIC	
	C030	QCY21HK-272	2700PF	50V	CERAMIC	
	C031	QCY21HK-272	2700PF	50V	CERAMIC	
	C032	QCY21HK-272	2700PF	50V	CERAMIC	
	C033	QCS21HJ-270	27PF	50V	CERAMIC	F
	C034	QCS21HJ-270	27PF	50V	CERAMIC	F
	C701	EEZ5003-106	10MF		ELECTRO	
	C702	EEZ5003-106	10MF		ELECTRO	
	C703	QCS21HJ-271	270PF	50V	CERAMIC	
	C704	QCS21HJ-271	270PF	50V	CERAMIC	
	C705	QCS21HJ-101	100PF	50V	CERAMIC	
	C706	QCS21HJ-101	100PF	50V	CERAMIC	
	C707	QETB1CM-107	100MF	16V	ELECTRO	
	C708	QETB1CM-107	100MF	16V	ELECTRO	
	C709	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C710	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C711	QCY21HK-332	3300PF	50V	CERAMIC	
	C712	QCY21HK-332	3300PF	50V	CERAMIC	
	C713	QCS21HJ-680	68PF	50V	CERAMIC	
	C714	QCS21HJ-680	68PF	50V	CERAMIC	
	C715	QCS21HJ-680	68PF	50V	CERAMIC	
	C716	QCS21HJ-680	68PF	50V	CERAMIC	
	C717	QCS21HJ-220	22PF	50V	CERAMIC	
	C718	QCS21HJ-220	22PF	50V	CERAMIC	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C719	QFN81HK-472	4700PF	50V	MYLAR	
	C720	QFN81HK-472	4700PF	50V	MYLAR	
	C722	QETB1EM-106	10MF	25V	ELECTRO	
	C723	QEHB2AM-476	47MF	100V	ELECTRO	
	C724	QEHB2AM-476	47MF	100V	ELECTRO	
	C725	QCS32HJ-470	47PF	500V	CERAMIC	
	C726	QCS32HJ-470	47PF	500V	CERAMIC	
	C727	QCS32HJ-470	47PF	500V	CERAMIC	
	C728	QCS32HJ-470	47PF	500V	CERAMIC	
	C729	QFN81HK-223	0.022MF	50V	MYLAR	A
	C729	QFN81HK-473	0.047MF	50V	MYLAR	B
	C729	QFN81HK-473	0.047MF	50V	MYLAR	C
	C729	QFN81HK-473	0.047MF	50V	MYLAR	D
	C729	QFN81HK-473	0.047MF	50V	MYLAR	E
	C729	QFN81HK-473	0.047MF	50V	MYLAR	F
	C730	QFN81HK-223	0.022MF	50V	MYLAR	A
	C730	QFN81HK-473	0.047MF	50V	MYLAR	B
	C730	QFN81HK-473	0.047MF	50V	MYLAR	C
	C730	QFN81HK-473	0.047MF	50V	MYLAR	D
	C730	QFN81HK-473	0.047MF	50V	MYLAR	E
	C730	QFN81HK-473	0.047MF	50V	MYLAR	F
	C731	QFN81HK-473	0.047MF	50V	MYLAR	B
	C731	QFN81HK-473	0.047MF	50V	MYLAR	C
	C731	QFN81HK-473	0.047MF	50V	MYLAR	D
	C731	QFN81HK-473	0.047MF	50V	MYLAR	E
	C731	QFN81HK-473	0.047MF	50V	MYLAR	F
	C732	QFN81HK-473	0.047MF	50V	MYLAR	B
	C732	QFN81HK-473	0.047MF	50V	MYLAR	C
	C732	QFN81HK-473	0.047MF	50V	MYLAR	D
	C732	QFN81HK-473	0.047MF	50V	MYLAR	E
	C732	QFN81HK-473	0.047MF	50V	MYLAR	F
	C801	EEW7501-129	12000MF	75V	ELECTRO	
	C802	EEW7501-129	12000MF	75V	ELECTRO	
	C803	QCE22HP-103	0.01MF	500V	CERAMIC	
	C804	QCE22HP-103	0.01MF	500V	CERAMIC	
	C805	QCE22HP-103	0.01MF	500V	CERAMIC	
	C806	QCE22HP-103	0.01MF	500V	CERAMIC	
	C807	QETB1HM-226	22MF	50V	ELECTRO	
	C809	QETB1HM-108	1000MF	50V	ELECTRO	
	C810	QETB1HM-108	1000MF	50V	ELECTRO	
	C811	QCE22HP-103	0.01MF	500V	CERAMIC	
	C812	QCE22HP-103	0.01MF	500V	CERAMIC	
	C813	QFN82CK-104	0.1MF	160V	MYLAR	F
	C814	QFN82CK-104	0.1MF	160V	MYLAR	F
	C821	QETB1EM-107	100MF	25V	ELECTRO	
	C822	QETB1EM-107	100MF	25V	ELECTRO	
	C824	QETB1EM-476	47MF	25V	ELECTRO	
	C825	QETB1EM-226	22MF	25V	ELECTRO	
	C826	QETB1EM-226	22MF	25V	ELECTRO	
	C827	QETB1EM-107	100MF	25V	ELECTRO	
	C828	QETB1EM-226	22MF	25V	ELECTRO	
	C829	QETB1EM-106	10MF	25V	ELECTRO	
	C851	QCF21HP-472	4700PF	50V	CERAMIC	
	C852	QCF21HP-472	4700PF	50V	CERAMIC	
	C853	QCF21HP-472	4700PF	50V	CERAMIC	
	C854	QCF21HP-472	4700PF	50V	CERAMIC	
	C855	QCF21HP-472	4700PF	50V	CERAMIC	
	C856	QCF21HP-472	4700PF	50V	CERAMIC	
	C857	QCF21HP-472	4700PF	50V	CERAMIC	
	C858	QCF21HP-103	0.01MF	50V	CERAMIC	
	C859	QCF21HP-472	4700PF	50V	CERAMIC	
	C860	QCF21HP-472	4700PF	50V	CERAMIC	
	C861	QETB1EM-107	100MF	25V	ELECTRO	
	C901	QCF21HP-223	0.022MF	50V	CERAMIC	
	C902	QCF21HP-223	0.022MF	50V	CERAMIC	
	C903	QETB1EM-226	22MF	25V	ELECTRO	
	C904	QCF21HP-103	0.01MF	50V	CERAMIC	
	C905	QCY21HK-102	1000PF	50V	CERAMIC	
	C906	QETB1AM-476	47MF	10V	ELECTRO	
	C907	QETB1HM-474	0.47MF	50V	ELECTRO	
	C908	QFN81HK-153	0.015MF	50V	MYLAR	
	C909	QETB1CM-226	22MF	16V	ELECTRO	
	C911	QETB1HM-225	2.2MF	50V	ELECTRO	
	C912	QETB1HM-227	220MF	50V	ELECTRO	
	C941	QETB1EM-226	22MF	25V	ELECTRO	
	C942	QETB1AM-476	47MF	10V	ELECTRO	
	C943	QETB1CM-226	22MF	16V	ELECTRO	
	C971	QCS21HJ-331	330PF	50V	CERAMIC	F
	C972	QCS21HJ-331	330PF	50V	CERAMIC	F
	C973	QCF21HP-103	0.01MF	50V	CERAMIC	F
	C975	QCS21HJ-331	330PF	50V	CERAMIC	F
	C976	QCS21HJ-331	330PF	50V	CERAMIC	F
	C981	QFN81HK-103	0.01MF	50V	MYLAR	F
	C982	QFN81HK-103	0.01MF	50V	MYLAR	F
	C983	QFN81HK-103	0.01MF	50V	MYLAR	F
	C984	QFN81HK-103	0.01MF	50V	MYLAR	F
	C985	QCF21HP-472	4700PF	50V	CERAMIC	F
	C986	QCF21HP-472	4700PF	50V	CERAMIC	F
	C991	QCY21HK-102	1000PF	50V	CERAMIC	F
	C992	QCY21HK-102	1000PF	50V	CERAMIC	F
	C993	QCF21HP-472	4700PF	50V	CERAMIC	F
	C994	QCF21HP-472	4700PF	50V	CERAMIC	F
	C995	QCF21HP-472	4700PF	50V	CERAMIC	F

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R011	QRD167J-222	2.2K	1/6W	CARBON	
	R012	QRD167J-222	2.2K	1/6W	CARBON	
	R013	QRD167J-104	100K	1/6W	CARBON	
	R014	QRD167J-104	100K	1/6W	CARBON	
	R015	QRD167J-272	2.7K	1/6W	CARBON	
	R016	QRD167J-272	2.7K	1/6W	CARBON	
	R017	QRD167J-104	100K	1/6W	CARBON	
	R018	QRD167J-104	100K	1/6W	CARBON	
	R019	QRD167J-822	8.2K	1/6W	CARBON	
	R020	QRD167J-822	8.2K	1/6W	CARBON	
	R021	QRD167J-822	8.2K	1/6W	CARBON	
	R022	QRD167J-822	8.2K	1/6W	CARBON	
⚠	R023	QRD14CJ-821S	820	1/4W	UNF.CARBON	A
⚠	R023	QRD14CJ-821S	820	1/4W	UNF.CARBON	B
⚠	R023	QRZ0077-821	820	1/4W	FUSIBLE	C
⚠	R023	QRZ0077-821	820	1/4W	FUSIBLE	D
⚠	R023	QRZ0077-821	820	1/4W	FUSIBLE	E
⚠	R023	QRZ0077-821	820	1/4W	FUSIBLE	F
⚠	R024	QRD14CJ-821S	820	1/4W	UNF.CARBON	A
⚠	R024	QRD14CJ-821S	820	1/4W	UNF.CARBON	B
⚠	R024	QRZ0077-821	820	1/4W	FUSIBLE	C
⚠	R024	QRZ0077-821	820	1/4W	FUSIBLE	D
⚠	R024	QRZ0077-821	820	1/4W	FUSIBLE	E
⚠	R024	QRZ0077-821	820	1/4W	FUSIBLE	F
⚠	R025	QRD14CJ-821S	820	1/4W	UNF.CARBON	A
⚠	R025	QRD14CJ-821S	820	1/4W	UNF.CARBON	B
⚠	R025	QRZ0077-821	820	1/4W	FUSIBLE	C
⚠	R025	QRZ0077-821	820	1/4W	FUSIBLE	D
⚠	R025	QRZ0077-821	820	1/4W	FUSIBLE	E
⚠	R025	QRZ0077-821	820	1/4W	FUSIBLE	F
⚠	R026	QRD14CJ-821S	820	1/4W	UNF.CARBON	A
⚠	R026	QRD14CJ-821S	820	1/4W	UNF.CARBON	B
⚠	R026	QRZ0077-821	820	1/4W	FUSIBLE	C
⚠	R026	QRZ0077-821	820	1/4W	FUSIBLE	D
⚠	R026	QRZ0077-821	820	1/4W	FUSIBLE	E
⚠	R026	QRZ0077-821	820	1/4W	FUSIBLE	F
⚠	R027	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R028	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R029	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R030	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R031	QRD14CJ-471S	470	1/4W	UNF.CARBON	
⚠	R032	QRD14CJ-471S	470	1/4W	UNF.CARBON	
⚠	R033	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R034	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R035	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R036	QRX022J-R22AM	0.22	2W	M.FILM	
⚠	R037	QRG012J-681AM	680	1W	O.M.FILM	
⚠	R038	QRG012J-681AM	680	1W	O.M.FILM	
⚠	R039	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R040	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R041	SDT250			THERMISTOR	
	R042	SDT250			THERMISTOR	
	R701	QRD167J-222	2.2K	1/6W	CARBON	
	R702	QRD167J-222	2.2K	1/6W	CARBON	
	R703	QRD167J-104	100K	1/6W	CARBON	
	R704	QRD167J-104	100K	1/6W	CARBON	
	R705	QRD167J-202	2K	1/6W	CARBON	
	R706	QRD167J-202	2K	1/6W	CARBON	
	R707	QRD167J-202	2K	1/6W	CARBON	
	R708	QRD167J-202	2K	1/6W	CARBON	
	R709	QRD167J-822	8.2K	1/6W	CARBON	
	R710	QRD167J-822	8.2K	1/6W	CARBON	
	R711	QRD167J-152	1.5K	1/6W	CARBON	
	R712	QRD167J-152	1.5K	1/6W	CARBON	
	R713	QRD167J-104	100K	1/6W	CARBON	
	R714	QRD167J-104	100K	1/6W	CARBON	
	R715	QRD167J-101	100	1/6W	CARBON	
	R716	QRD167J-101	100	1/6W	CARBON	
⚠	R717	QRD125J-153	15K	1/2W	UNF.CARBON	
⚠	R718	QRD125J-153	15K	1/2W	UNF.CARBON	
	R719	QRD167J-391	390	1/6W	CARBON	
	R720	QRD167J-391	390	1/6W	CARBON	
⚠	R721	QRD14CJ-151S	150	1/4W	UNF.CARBON	
⚠	R722	QRD14CJ-151S	150	1/4W	UNF.CARBON	
	R723	QRD167J-152	1.5K	1/6W	CARBON	
	R724	QRD167J-152	1.5K	1/6W	CARBON	
	R725	QRD167J-333	33K	1/6W	CARBON	
	R726	QRD167J-333	33K	1/6W	CARBON	
⚠	R727	QRD14CJ-391S	390	1/4W	UNF.CARBON	
⚠	R728	QRD14CJ-391S	390	1/4W	UNF.CARBON	
	R729	QRD167J-152	1.5K	1/6W	CARBON	
	R730	QRD167J-152	1.5K	1/6W	CARBON	
⚠	R732	QRG022J-562A	5.6K	2W	O.M.FILM	
⚠	R733	QRD14CJ-330S	33	1/4W	UNF.CARBON	A
⚠	R733	QRD14CJ-330S	33	1/4W	UNF.CARBON	B
⚠	R733	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R733	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R733	QRZ0077-330	33	1/4W	FUSIBLE	E
⚠	R733	QRZ0077-330	33	1/4W	FUSIBLE	F
⚠	R734	QRD14CJ-330S	33	1/4W	UNF.CARBON	A
⚠	R734	QRD14CJ-330S	33	1/4W	UNF.CARBON	B
⚠	R734	QRZ0077-330	33	1/4W	FUSIBLE	C
⚠	R734	QRZ0077-330	33	1/4W	FUSIBLE	D
⚠	R734	QRZ0077-330	33	1/4W	FUSIBLE	E
⚠	R734	QRZ0077-330	33	1/4W	FUSIBLE	F

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R735	QRD167J-103	10K	1/6W	CARBON	
	R736	QRD167J-103	10K	1/6W	CARBON	
	R737	QRD167J-103	10K	1/6W	CARBON	
	R738	QRD167J-103	10K	1/6W	CARBON	
	R739	QRD167J-221	220	1/6W	CARBON	
	R740	QRD167J-221	220	1/6W	CARBON	
	R741	QRD167J-221	220	1/6W	CARBON	
	R742	QRD167J-221	220	1/6W	CARBON	
	R743	QRD167J-271	270	1/6W	CARBON	
	R744	QRD167J-271	270	1/6W	CARBON	
	R745	QRD167J-271	270	1/6W	CARBON	
	R746	QRD167J-271	270	1/6W	CARBON	
	R747	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R748	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R749	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R750	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R751	QRD167J-122	1.2K	1/6W	CARBON	
	R752	QRD167J-122	1.2K	1/6W	CARBON	
	R753	QRD167J-122	1.2K	1/6W	CARBON	
	R754	QRD167J-122	1.2K	1/6W	CARBON	
	R755	QRD167J-471	470	1/6W	CARBON	
	R756	QRD167J-471	470	1/6W	CARBON	
	R757	QRD167J-101	100	1/6W	CARBON	
	R758	QRD167J-101	100	1/6W	CARBON	
	R759	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R760	ERT-D2WFL351S	350	1/4W	THERMISTOR	
	R761	QRD167J-391	390	1/6W	CARBON	
	R762	QRD167J-391	390	1/6W	CARBON	
	R763	SDT250			THERMISTOR	
	R764	SDT250			THERMISTOR	
⚠	R765	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R766	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R767	QRD14CJ-271S	270	1/4W	UNF.CARBON	
⚠	R768	QRD14CJ-271S	270	1/4W	UNF.CARBON	
⚠	R769	QRD14CJ-120S	12	1/4W	UNF.CARBON	A
⚠	R769	QRD14CJ-120S	12	1/4W	UNF.CARBON	B
⚠	R769	QRD14CJ-100S	10	1/4W	UNF.CARBON	C
⚠	R769	QRD14CJ-100S	10	1/4W	UNF.CARBON	D
⚠	R769	QRD14CJ-100S	10	1/4W	UNF.CARBON	E
⚠	R769	QRD14CJ-100S	10	1/4W	UNF.CARBON	F
⚠	R770	QRD14CJ-120S	12	1/4W	UNF.CARBON	A
⚠	R770	QRD14CJ-120S	12	1/4W	UNF.CARBON	B
⚠	R770	QRD14CJ-100S	10	1/4W	UNF.CARBON	C
⚠	R770	QRD14CJ-100S	10	1/4W	UNF.CARBON	D
⚠	R770	QRD14CJ-100S	10	1/4W	UNF.CARBON	E
⚠	R770	QRD14CJ-100S	10	1/4W	UNF.CARBON	F
⚠	R771	QRD14CJ-120S	12	1/4W	UNF.CARBON	A
⚠	R771	QRD14CJ-120S	12	1/4W	UNF.CARBON	B
⚠	R771	QRD14CJ-100S	10	1/4W	UNF.CARBON	C
⚠	R771	QRD14CJ-100S	10	1/4W	UNF.CARBON	D
⚠	R771	QRD14CJ-100S	10	1/4W	UNF.CARBON	E
⚠	R771	QRD14CJ-100S	10	1/4W	UNF.CARBON	F
⚠	R772	QRD14CJ-120S	12	1/4W	UNF.CARBON	A
⚠	R772	QRD14CJ-120S	12	1/4W	UNF.CARBON	B
⚠	R772	QRD14CJ-100S	10	1/4W	UNF.CARBON	C
⚠	R772	QRD14CJ-100S	10	1/4W	UNF.CARBON	D
⚠	R772	QRD14CJ-100S	10	1/4W	UNF.CARBON	E
⚠	R772	QRD14CJ-100S	10	1/4W	UNF.CARBON	F
⚠	R773	ERF032K-R22	0.22	3W	CEMENT	
⚠	R774	ERF032K-R22	0.22	3W	CEMENT	
⚠	R775	QRD125J-330	33	1/2W	UNF.CARBON	A
⚠	R775	QRD125J-330	33	1/2W	UNF.CARBON	B
⚠	R775	QRD125J-330	33	1/2W	UNF.CARBON	C
⚠	R775	QRD125J-330	33	1/2W	UNF.CARBON	D
⚠	R775	QRD125J-330	33	1/2W	UNF.CARBON	E
⚠	R775	QRD125J-470	47	1/2W	UNF.CARBON	F
⚠	R776	QRD125J-330	33	1/2W	UNF.CARBON	A
⚠	R776	QRD125J-330	33	1/2W	UNF.CARBON	B
⚠	R776	QRD125J-330	33	1/2W	UNF.CARBON	C
⚠	R776	QRD125J-330	33	1/2W	UNF.CARBON	D
⚠	R776	QRD125J-330	33	1/2W	UNF.CARBON	E
⚠	R776	QRD125J-470	47	1/2W	UNF.CARBON	F
⚠	R777	QRG022J-100AM	10	2W	O.M.FILM	
⚠	R778	QRG022J-100AM	10	2W	O.M.FILM	
⚠	R779	QRX022J-R47AM	0.47	2W	M.FILM	
⚠	R780	QRX022J-R47AM	0.47	2W	M.FILM	
⚠	R781	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R782	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R783	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R784	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R801	QRD167J-114	110K	1/6W	CARBON	
	R802	QRD167J-114	110K	1/6W	CARBON	
⚠	R803	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	
⚠	R804	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	
	R805	QRD167J-472	4.7K	1/6W	CARBON	
	R806	QRD167J-472	4.7K	1/6W	CARBON	
	R807	QRD167J-103	10K	1/6W	CARBON	
	R808	QRD167J-103	10K	1/6W	CARBON	
	R809	QRD167J-122	1.2K	1/6W	CARBON	
	R810	QRD167J-333	33K	1/6W	CARBON	
⚠	R811	QRG022J-222AM	2.2K	2W	O.M.FILM	
⚠	R821	QRX012J-1R2AM	1.2	1W	M.FILM	
⚠	R822	QRX012J-1R2AM	1.2	1W	M.FILM	
⚠	R823	QRG022J-680AM	68	2W	O.M.FILM	A
⚠	R823	QRG022J-680AM	68	2W	O.M.FILM	B

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R823	QRG022J-470A	47 2W O.M.FILM	C
⚠	R823	QRG022J-470A	47 2W O.M.FILM	D
⚠	R823	QRG022J-470A	47 2W O.M.FILM	E
⚠	R823	QRG022J-470A	47 2W O.M.FILM	F
⚠	R824	QRD125J-272	2.7K 1/2W UNF.CARBON	
	R825	QRD167J-562	5.6K 1/6W CARBON	
	R826	QRD167J-682	6.8K 1/6W CARBON	
⚠	R827	QRG022J-330A	33 2W O.M.FILM	A
⚠	R827	QRG022J-330A	33 2W O.M.FILM	B
⚠	R827	QRG022J-270A	27 2W O.M.FILM	C
⚠	R827	QRG022J-270A	27 2W O.M.FILM	D
⚠	R827	QRG022J-270A	27 2W O.M.FILM	E
⚠	R827	QRG022J-270A	27 2W O.M.FILM	F
⚠	R828	QRD125J-272	2.7K 1/2W UNF.CARBON	
⚠	R831	QRG022J-470A	47 2W O.M.FILM	
	R832	QRD167J-133	13K 1/6W CARBON	
⚠	R834	QRG022J-820AM	82 2W O.M.FILM	
	R835	QRD167J-133	13K 1/6W CARBON	
⚠	R836	QRG022J-390AM	39 2W O.M.FILM	
	R837	QRD167J-123	12K 1/6W CARBON	
⚠	R838	QRG022J-680AM	68 2W O.M.FILM	
⚠	R839	QRD125J-272	2.7K 1/2W UNF.CARBON	
⚠	R840	QRG022J-151A	150 2W O.M.FILM	
⚠	R841	QRG022J-151A	150 2W O.M.FILM	
⚠	R842	QRG022J-151A	150 2W O.M.FILM	
⚠	R843	QRG022J-151A	150 2W O.M.FILM	
	R844	QRD167J-183	18K 1/6W CARBON	
⚠	R851	QRD14CJ-120S	12 1/4W UNF.CARBON	A
⚠	R851	QRD14CJ-120S	12 1/4W UNF.CARBON	B
⚠	R851	QRZ0077-120	12 1/4W FUSIBLE	C
⚠	R851	QRZ0077-120	12 1/4W FUSIBLE	D
⚠	R851	QRZ0077-120	12 1/4W FUSIBLE	E
⚠	R851	QRZ0077-120	12 1/4W FUSIBLE	F
⚠	R852	QRD14CJ-120S	12 1/4W UNF.CARBON	A
⚠	R852	QRD14CJ-120S	12 1/4W UNF.CARBON	B
⚠	R852	QRZ0077-120	12 1/4W FUSIBLE	C
⚠	R852	QRZ0077-120	12 1/4W FUSIBLE	D
⚠	R852	QRZ0077-120	12 1/4W FUSIBLE	E
⚠	R852	QRZ0077-120	12 1/4W FUSIBLE	F
⚠	R853	QRD14CJ-150S	15 1/4W UNF.CARBON	A
⚠	R853	QRD14CJ-150S	15 1/4W UNF.CARBON	B
⚠	R853	QRZ0077-150	15 1/4W FUSIBLE	C
⚠	R853	QRZ0077-150	15 1/4W FUSIBLE	D
⚠	R853	QRZ0077-150	15 1/4W FUSIBLE	E
⚠	R853	QRZ0077-150	15 1/4W FUSIBLE	F
	R854	QRD167J-182	1.8K 1/6W CARBON	
⚠	R855	QRD14CJ-120S	12 1/4W UNF.CARBON	A
⚠	R855	QRD14CJ-120S	12 1/4W UNF.CARBON	B
⚠	R855	QRZ0077-120	12 1/4W FUSIBLE	C
⚠	R855	QRZ0077-120	12 1/4W FUSIBLE	D
⚠	R855	QRZ0077-120	12 1/4W FUSIBLE	E
⚠	R855	QRZ0077-120	12 1/4W FUSIBLE	F
⚠	R856	QRX022J-4R7A	4.7 2W M.FILM	
⚠	R857	QRD125J-272	2.7K 1/2W UNF.CARBON	
	R898	QRD167J-103	10K 1/6W CARBON	
	R901	QRD167J-102	1K 1/6W CARBON	
	R902	QRD167J-102	1K 1/6W CARBON	
	R903	QRD167J-562	5.6K 1/6W CARBON	
	R904	QRD167J-562	5.6K 1/6W CARBON	
	R905	QRD167J-123	12K 1/6W CARBON	
	R906	QRD167J-123	12K 1/6W CARBON	
	R907	QRD167J-102	1K 1/6W CARBON	
	R908	QRD167J-102	1K 1/6W CARBON	
	R909	QRD167J-103	10K 1/6W CARBON	
	R911	QRD167J-332	3.3K 1/6W CARBON	
	R912	QRD167J-473	47K 1/6W CARBON	
	R913	QRD167J-104	100K 1/6W CARBON	
	R914	QRD167J-823	82K 1/6W CARBON	
	R915	QRD167J-823	82K 1/6W CARBON	
	R916	QRD167J-563	56K 1/6W CARBON	
	R917	QRD167J-683	68K 1/6W CARBON	
	R918	QRD167J-392	3.9K 1/6W CARBON	
	R919	QRD167J-392	3.9K 1/6W CARBON	
	R920	QRD167J-333	33K 1/6W CARBON	
	R921	QRD167J-224	220K 1/6W CARBON	
	R922	QRD167J-562	5.6K 1/6W CARBON	
	R923	QRD167J-220	22 1/6W CARBON	A
	R923	QRD167J-220	22 1/6W CARBON	B
	R923	QRD167J-220	22 1/6W CARBON	C
	R923	QRD167J-330	33 1/6W CARBON	D
	R923	QRD167J-330	33 1/6W CARBON	E
	R923	QRD167J-330	33 1/6W CARBON	F
⚠	R924	QRG022J-271A	270 2W O.M.FILM	A
⚠	R924	QRG022J-271A	270 2W O.M.FILM	B
⚠	R924	QRG026J-271AF	270 2W O.M.FILM	C
⚠	R924	QRG026J-271AF	270 2W O.M.FILM	D
⚠	R924	QRG026J-271AF	270 2W O.M.FILM	E
⚠	R924	QRG026J-271AF	270 2W O.M.FILM	F
	R925	QRD167J-680	68 1/6W CARBON	A
	R925	QRD167J-680	68 1/6W CARBON	B
	R925	QRD167J-680	68 1/6W CARBON	C
	R925	QRD167J-390	39 1/6W CARBON	D
	R925	QRD167J-390	39 1/6W CARBON	E
	R925	QRD167J-390	39 1/6W CARBON	F
	R926	QRD167J-220	22 1/6W CARBON	A

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R926	QRD167J-220	22 1/6W CARBON	B
	R926	QRD167J-220	22 1/6W CARBON	C
	R926	QRD167J-390	39 1/6W CARBON	D
	R926	QRD167J-390	39 1/6W CARBON	E
	R926	QRD167J-390	39 1/6W CARBON	F
	R927	QRD167J-180	18 1/6W CARBON	A
	R927	QRD167J-180	18 1/6W CARBON	B
	R927	QRD167J-560	56 1/6W CARBON	C
	R927	QRD167J-390	39 1/6W CARBON	D
	R927	QRD167J-390	39 1/6W CARBON	E
	R927	QRD167J-390	39 1/6W CARBON	F
	R928	QRD167J-220	22 1/6W CARBON	A
	R928	QRD167J-220	22 1/6W CARBON	B
	R928	QRD167J-220	22 1/6W CARBON	C
	R928	QRD167J-390	39 1/6W CARBON	D
	R928	QRD167J-390	39 1/6W CARBON	E
	R928	QRD167J-390	39 1/6W CARBON	F
⚠	R929	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R929	QRD14CJ-680S	68 1/4W UNF.CARBON	B
⚠	R929	QRD14CJ-101S	100 1/4W UNF.CARBON	C
⚠	R929	QRD14CJ-101S	100 1/4W UNF.CARBON	D
⚠	R929	QRD14CJ-101S	100 1/4W UNF.CARBON	E
⚠	R929	QRD14CJ-101S	100 1/4W UNF.CARBON	F
	R930	QRD167J-472	4.7K 1/6W CARBON	
	R931	QRD167J-123	12K 1/6W CARBON	
	R932	QRD167J-332	3.3K 1/6W CARBON	
	R941	QRD167J-103	10K 1/6W CARBON	
	R942	QRD167J-103	10K 1/6W CARBON	
	R943	QRD167J-104	100K 1/6W CARBON	
	R944	QRD167J-823	82K 1/6W CARBON	
	R945	QRD167J-123	12K 1/6W CARBON	
	R946	QRD167J-123	12K 1/6W CARBON	
	R947	QRD167J-103	10K 1/6W CARBON	
	R948	QRD167J-332	3.3K 1/6W CARBON	
	R949	QRD167J-473	47K 1/6W CARBON	
	R950	QRD167J-563	56K 1/6W CARBON	
	R951	QRD167J-333	33K 1/6W CARBON	
	R952	QRD167J-333	33K 1/6W CARBON	
	R953	QRD167J-823	82K 1/6W CARBON	
	R954	QRD167J-224	220K 1/6W CARBON	
	R955	QRD167J-562	5.6K 1/6W CARBON	
	R956	QRD167J-392	3.9K 1/6W CARBON	
	R957	QRD167J-683	68K 1/6W CARBON	
⚠	R958	QRG022J-391AM	390 2W O.M.FILM	
	R959	QRD167J-680	68 1/6W CARBON	
	R960	QRD167J-820	82 1/6W CARBON	
	R961	QRD167J-680	68 1/6W CARBON	
⚠	R962	QRD14CJ-121S	120 1/4W UNF.CARBON	A
⚠	R962	QRD14CJ-121S	120 1/4W UNF.CARBON	B
⚠	R962	QRD14CJ-181S	180 1/4W UNF.CARBON	C
⚠	R962	QRD14CJ-181S	180 1/4W UNF.CARBON	D
⚠	R962	QRD14CJ-181S	180 1/4W UNF.CARBON	E
⚠	R962	QRD14CJ-181S	180 1/4W UNF.CARBON	F
⚠	R973	QRG022J-471AM	470 2W O.M.FILM	
⚠	R974	QRG022J-471AM	470 2W O.M.FILM	
⚠	R981	QRZ0077-100	10 1/4W FUSIBLE	F
⚠	R982	QRZ0077-100	10 1/4W FUSIBLE	F
⚠	R983	QRZ0077-100	10 1/4W FUSIBLE	F
⚠	R984	QRZ0077-100	10 1/4W FUSIBLE	F
	VR701	QVPE601-501	500 0.15W VARIABLE	
	VR702	QVPE601-501	500 0.15W VARIABLE	

⚠ SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMB90YV-401A	SPEAKER TERMINAL	
		EWH23A-16RR	FLAT WIRE	
		E12055-003	CIRCUIT BOARD	
		E25913-005	HEAT SINK	
		E305205-001	HEAT SINK BRACKET	
		E306249-001	HEAT SINK BRACKET	
		E67764-102	WRAPPING TERMINAL	
		E70208-001	PLATE	
		E70306-001	HEAT SINK	
		E70859-001	EARTH PLATE	
		E73525-001	SPECIAL SCREW	
		E73525-002	SCREW	
		E74546-001	HEAT SINK BRACKET	
		SBSB3008CC	SCREW	
		SBSB3008Z	SCREW	
		EMB00TV-801A	TERMINAL	A
		EMB00TV-801A	TERMINAL	B
		EMB00TV-801B	TERMINAL	C
		E65654-001	SPACER	C
		EMB00TV-801B	TERMINAL	D

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E65654-001	SPACER	D
		EMB00TV-801B	TERMINAL	E
		E65654-001	SPACER	E
		EMB00TV-801B	TERMINAL	F
		E65654-001	SPACER	F
		E70225-002	EARTH PLATE	F
	WT804	E67764-102	WRAPPING TERMINAL	
	J703	QMS6A40-021	HEADPHONE JACK	
	L011	EQL0001-R45	INDUCTOR	F
	L012	EQL0001-R45	INDUCTOR	F
	L701	EQL0101-1R2	INDUCTOR	
	L702	EQL0101-1R2	INDUCTOR	
	P871	EMV7112-003R	CONNECTOR	
	P872	EMV5102-003B	PLUG ASSY	
	S901	QST4231-E04	PUSH SWITCH	
	S902	QST4231-E04	PUSH SWITCH	
⚠	CP851	ICP-N5	I.C. PROTECTOR	C
⚠	CP851	ICP-N5	I.C. PROTECTOR	D
⚠	CP851	ICP-N5	I.C. PROTECTOR	E
⚠	CP851	ICP-N5	I.C. PROTECTOR	F

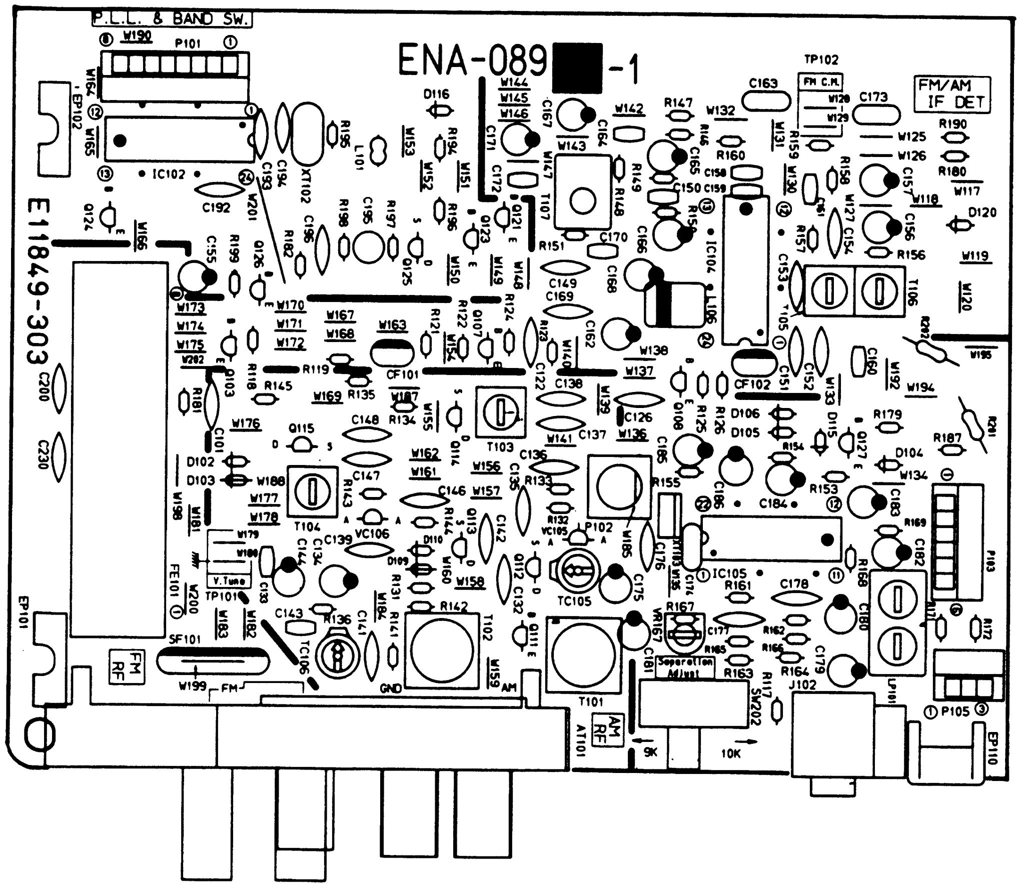
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	FW290	EWR34B-20KST	FLAT WIRE	
	FW561	EWR23C-35JN	FLAT WIRE	
	FW801	EWR38B-16SST	FLAT WIRE	
	FW802	EWR39B-16SST	FLAT WIRE	
	FW803	EWR34B-20SST	FLAT WIRE	
	FW858	EWR23C-20NN	FLAT WIRE	
	FW860	EWR34B-10KST	FLAT WIRE	
	FW901	EWR33B-13SST	FLAT WIRE	
	FW902	EWR34B-70SST	FLAT WIRE	
	PT851	EMV7122-003	CONNECTOR	
	PT852	EMV7122-005	CONNECTOR	
	PT853	EMV7122-004	CONNECTOR	
	PT855	EMV7122-003	CONNECTOR	
	PT856	EMV7122-003	CONNECTOR	
	PT857	EMV7122-003	CONNECTOR	
	PT859	EMV7122-003	CONNECTOR	
	PT860	EMV7122-004	CONNECTOR	
	RY901	ESK5D24-214	RELAY Speaker	
	RY941	ESK8D24-212	RELAY	

⚠ : SAFETY PARTS

■ENA-089 ☐ Tuner PC Board Ass'y

Note : ENA-089 ☐ varies according to the areas employed. See note (1) when placing an order.


P.L.L. & BAND SW.
P101
ENA-089■-1
E11849-303
FM/AM IF DET
FM C.M.
TP102
IC102
IC104
IC105
XT102
CF101
CF102
T101
T102
T103
T104
T105
T106
T107
TC105
TC106
VC105
VC106
V.Tune
TP101
FE101
SF101
FM RF
AM RF
AT101
GND
FM
AM
Separation Adjust
VR167
SW202
J102
9K
10K
P103
P105
EP101
EP102
EP110
D116
D120
Q121
Q123
Q124
Q125
Q126
Q127

Note (1)

PC Board Ass'y	Designated Areas
ENH-089 Ⓐ	the U.S.A., Canada
ENH-089 Ⓑ	Other Countries
ENH-089 Ⓒ	Europe
ENH-089 Ⓔ	West Germany
ENH-089 Ⓗ	Australia, the U.K.

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q103	2SC461(B,C)	SILICON HITACHI	
	Q107	2SC535(B,C)	SILICON HITACHI	
	Q108	2SC461(B,C)	SILICON HITACHI	
	Q112	2SK301(Q,R)	F.E.T MATSUSHITA	
	Q123	DTA114YS	SILICON ROHM	
	Q124	DTA114YS	SILICON ROHM	
	Q125	2SK301(Q2)	F.E.T MATSUSHITA	
	Q126	2SC458(D)	SILICON HITACHI	
	Q127	DTC144ES	SILICON ROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LC7218	I.C. SANYO	
	IC104	LA1266A	I.C. SANYO	
	IC105	LA3401	I.C. SANYO	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D104	1SS119	SILICON HITACHI	
	D105	1SS119	SILICON HITACHI	
	D106	1SS119	SILICON HITACHI	
	D115	1SS119	SILICON HITACHI	
	D116	1SS119	SILICON HITACHI	
	D120	1SS119	SILICON HITACHI	
	VC105	SVC342(L)	VARICAP SANYO	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF21HP-223	0.022MF 50V CERAMIC	
	C122	QCF21HP-223	0.022MF 50V CERAMIC	
	C126	QCF21HP-223	0.022MF 50V CERAMIC	
	C132	QCS21HJ-561	560PF 50V CERAMIC	
	C133	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C134	QETB1EM-106	10MF 25V ELECTRO	
	C135	QCC21EM-223	0.022MF 25V CERAMIC	
	C136	QCT26CH-180	18PF 50V CERAMIC	
	C137	QCT26CH-221	220PF 50V CERAMIC	
	C138	QCT26CH-241	240PF 50V CERAMIC	
	C149	QCF21HP-223	0.022MF 50V CERAMIC	
	C150	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C151	QCF21HP-223	0.022MF 50V CERAMIC	
	C152	QCF21HP-223	0.022MF 50V CERAMIC	
	C153	QCC21EM-223	0.022MF 25V CERAMIC	
	C154	QCF21HP-223	0.022MF 50V CERAMIC	
	C155	QETB1EM-227	220MF 25V ELECTRO	
	C156	QETB1HM-475	4.7MF 50V ELECTRO	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCBB1HK-101	100PF 50V CERAMIC	
	C159	QCBB1HK-101	100PF 50V CERAMIC	
	C160	QCBB1HK-221	220PF 50V CERAMIC	
	C161	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C162	QETB1EM-106	10MF 25V ELECTRO	
	C163	QFN81HJ-332	3300PF 50V MYLAR	
	C164	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V ELECTRO	
	C167	QETB1HM-225	2.2MF 50V ELECTRO	
	C168	QETB1HM-475	4.7MF 50V ELECTRO	
	C169	QCF21HP-223	0.022MF 50V CERAMIC	
	C170	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C171	QETB1EM-106	10MF 25V ELECTRO	
	C172	QCVB1CM-103	0.01MF 16V CERAMIC	
	C173	QFN81HK-223	0.022MF 50V MYLAR	
	C174	QFN81HK-473	0.047MF 50V MYLAR	
	C175	QETB1EM-106	10MF 25V ELECTRO	
	C176	QCY21HK-102	1000PF 50V CERAMIC	
	C177	QCS21HJ-561	560PF 50V CERAMIC	A
	C177	QCS21HJ-561	560PF 50V CERAMIC	B
	C177	QCS21HJ-271	270PF 50V CERAMIC	C
	C177	QCS21HJ-271	270PF 50V CERAMIC	E
	C177	QCS21HJ-271	270PF 50V CERAMIC	H
	C178	QCS21HJ-561	560PF 50V CERAMIC	A
	C178	QCS21HJ-561	560PF 50V CERAMIC	B
	C178	QCS21HJ-271	270PF 50V CERAMIC	C
	C178	QCS21HJ-271	270PF 50V CERAMIC	E
	C178	QCS21HJ-271	270PF 50V CERAMIC	H
	C179	QETB1HM-225	2.2MF 50V ELECTRO	
	C180	QETB1HM-225	2.2MF 50V ELECTRO	
	C181	QETB1EM-106	10MF 25V ELECTRO	
	C182	QETB1HM-225	2.2MF 50V ELECTRO	
	C183	QETB1HM-105	1MF 50V ELECTRO	
	C184	QETB1HM-105	1MF 50V ELECTRO	
	C185	QETB1HM-225	2.2MF 50V ELECTRO	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CERAMIC	
	C193	QCS21HJ-180	18PF 50V CERAMIC	
	C194	QCS21HJ-180	18PF 50V CERAMIC	
	C195	QEN51HM-474	0.47MF 50V NON POLE	
	C196	QCY21HK-102	1000PF 50V CERAMIC	
	C200	QCF21HP-103	0.01MF 50V CERAMIC	
	C230	QCF21HP-103	0.01MF 50V CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R117	QRD167J-100	10 1/6W CARBON	
	R118	QRD167J-332	3.3K 1/6W CARBON	
	R119	QRD167J-221	220 1/6W CARBON	
	R121	QRD167J-391	390 1/6W CARBON	
	R122	QRD167J-272	2.7K 1/6W CARBON	
	R123	QRD167J-102	1K 1/6W CARBON	
	R124	QRD167J-681	680 1/6W CARBON	
	R125	QRD167J-332	3.3K 1/6W CARBON	
	R126	QRD167J-221	220 1/6W CARBON	
	R131	QRD167J-331	330 1/6W CARBON	
	R132	QRD167J-103	10K 1/6W CARBON	
	R133	QRD167J-473	47K 1/6W CARBON	
	R135	QRD167J-470	47 1/6W CARBON	
	R136	QRD167J-103	10K 1/6W CARBON	
	R146	QRD167J-560	56 1/6W CARBON	
	R147	QRD167J-103	10K 1/6W CARBON	
	R148	QRD167J-103	10K 1/6W CARBON	
	R149	QRD167J-223	22K 1/6W CARBON	
	R150	QRD167J-103	10K 1/6W CARBON	
	R151	QRD167J-224	220K 1/6W CARBON	
	R153	QRD167J-103	10K 1/6W CARBON	
	R154	QRD167J-103	10K 1/6W CARBON	
	R155	QRD167J-562	5.6K 1/6W CARBON	
	R156	QRD167J-822	8.2K 1/6W CARBON	
	R157	QRD167J-103	10K 1/6W CARBON	
	R158	QRD167J-183	18K 1/6W CARBON	A
	R158	QRD167J-273	27K 1/6W CARBON	B
	R158.	QRD167J-273	27K 1/6W CARBON	C
	R158	QRD167J-273	27K 1/6W CARBON	E
	R158	QRD167J-273	27K 1/6W CARBON	H
	R159	QRD167J-561	560 1/6W CARBON	
	R160	QRD167J-123	12K 1/6W CARBON	A
	R160	QRD167J-123	12K 1/6W CARBON	B
	R160	QRD167J-273	27K 1/6W CARBON	C
	R160	QRD167J-273	27K 1/6W CARBON	E
	R160	QRD167J-273	27K 1/6W CARBON	H
	R161	QRD167J-124	120K 1/6W CARBON	A
	R161	QRD167J-124	120K 1/6W CARBON	B
	R161	QRD167J-184	180K 1/6W CARBON	C
	R161	QRD167J-184	180K 1/6W CARBON	E
	R161	QRD167J-184	180K 1/6W CARBON	H
	R162	QRD167J-124	120K 1/6W CARBON	A
	R162	QRD167J-124	120K 1/6W CARBON	B
	R162	QRD167J-184	180K 1/6W CARBON	C
	R162	QRD167J-184	180K 1/6W CARBON	E
	R162	QRD167J-184	180K 1/6W CARBON	H
	R163	QRD167J-332	3.3K 1/6W CARBON	
	R164	QRD167J-332	3.3K 1/6W CARBON	
	R165	QRD167J-184	180K 1/6W CARBON	A
	R165	QRD167J-184	180K 1/6W CARBON	B
	R165	QRD167J-274	270K 1/6W CARBON	C
	R165	QRD167J-274	270K 1/6W CARBON	E
	R165	QRD167J-274	270K 1/6W CARBON	H
	R166	QRD167J-184	180K 1/6W CARBON	A
	R166	QRD167J-184	180K 1/6W CARBON	B
	R166	QRD167J-274	270K 1/6W CARBON	C
	R166	QRD167J-274	270K 1/6W CARBON	E
	R166	QRD167J-274	270K 1/6W CARBON	H
	R168	QRD167J-103	10K 1/6W CARBON	
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R179	QRD167J-562	5.6K 1/6W CARBON	
	R180	QRD167J-472	4.7K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R187	QRD167J-101	100 1/6W CARBON	
	R190	QRD167J-472	4.7K 1/6W CARBON	
	R194	QRD167J-472	4.7K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	
	R199	QRD167J-472	4.7K 1/6W CARBON	
⚠	R201	QRD145J-680S	68 1/4W UNF.CARBON	A
⚠	R201	QRD145J-680S	68 1/4W UNF.CARBON	B
⚠	R201	QRZ0062-680	68 1/4W FUSIBLE	C
⚠	R201	QRZ0062-680	68 1/4W FUSIBLE	E
⚠	R201	QRZ0062-680	68 1/4W FUSIBLE	H
⚠	R202	QRD145J-470S	47 1/4W UNF.CARBON	A
⚠	R202	QRD145J-470S	47 1/4W UNF.CARBON	B
⚠	R202	QRZ0062-470	47 1/4W FUSIBLE	C
⚠	R202	QRZ0062-220	22 1/4W FUSIBLE	E
⚠	R202	QRZ0062-470	47 1/4W FUSIBLE	H
	VR167	QVZ3518-104	100K 0.1W VARIABLE	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11849-302	CIRCUIT BOARD	
	J102	QMS3501-021	MINI JACK	
	L101	EQL4004-1R0	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	P101	EMV7112-008	CONNECTOR	
	P103	EMV7112-006	CONNECTOR	
	P105	EMV7112-003	CONNECTOR	B
	T101	EQR1111-014	AM RF COIL	
	T103	EQR1207-015	MW OSC COIL	
	T105	EQT2140-012	I.F. TRANSFORMER	
	T106	EQT2140-013	I.F. TRANSFORMER	
	T107	ECB1560-006	CERAMIC FILTER	
	AT101	EMB41YV-401K	ANTENNA TERMINAL	A
	AT101	EMB41YV-401K	ANTENNA TERMINAL	B
	AT101	EMB41YV-301K	ANTENNA TERMINAL	C
	AT101	EMB41YV-301K	ANTENNA TERMINAL	E
	AT101	EMB41YV-401K	ANTENNA TERMINAL	H
	CF101	ECB2123-001R	CERAMIC FILTER	A
	CF101	ECB2123-001R	CERAMIC FILTER	B
	CF101	ECB2118-001R	CERAMIC FILTER	C
	CF101	ECB2118-001R	CERAMIC FILTER	E
	CF101	ECB2118-001R	CERAMIC FILTER	H
	CF102	ECB2123-001R	CERAMIC FILTER	A
	CF102	ECB2123-001R	CERAMIC FILTER	B
	CF102	ECB2118-001R	CERAMIC FILTER	C

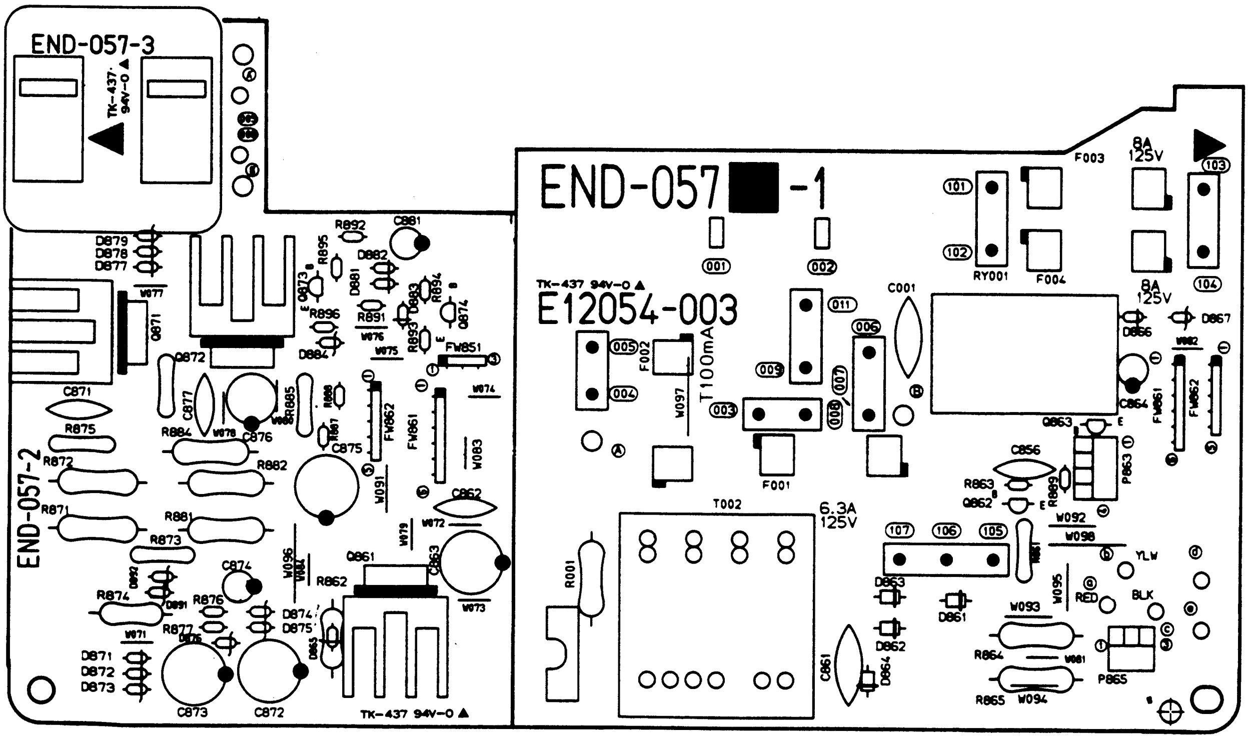
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	CF102	ECB2118-001R	CERAMIC FILTER	E
	CF102	ECB2118-001R	CERAMIC FILTER	H
	EP101	E70859-001	EARTH PLATE	
	EP102	E70859-001	EARTH PLATE	
	EP110	E70225-001	EARTH PLATE	
	FE101	EAF2204-001	FRONT END	A
	FE101	EAF2204-001	FRONT END	B
	FE101	EAF2204-001	FRONT END	C
	FE101	EAF2203-002	FRONT END	E
	FE101	EAF2204-001	FRONT END	H
	LP101	EQF0101-002	LOW PASS FILTER	
	LP102	EQF0102-001	LOW PASS FILTER	E
	SF101	EQF0201-006	BAND PASS FILTER	E
	SW202	QSS1201-039	SLIDE SWITCH	B
	TC105	ENZ1003-006	TRIMMER	
	XT102	ECX0007-200KC	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	

⚠ : SAFETY PARTS

■END-057□ Power Supply PC Board Ass'y

Note : END-057□ varies according to the areas employed. See note (1) when placing an order.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END-057-2
END-057■-1
E12054-003
TK-437 94V-0 ⚠
T100mA
F002
F001
F003
F004
8A 125V
8A 125V
6.3A 125V
RY001
C001
T002
R001
C861
D861
D862
D863
D864
D866
D867
C864
Q863
C856
R863
R869
Q862
P863
FW861
FW862
W092
W093
W094
W095
W098
R864
R865
P865
YLW
RED
BLK
R892
C881
D879
D878
D877
D882
D873
R895
D881
D883
R894
D874
R896
R891
R893
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R871
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R873
C862
W072
W079
C874
W096
W082
Q861
C863
R874
R876
R877
R862
D874
D875
D865
W071
W073
D871
D872
D873
C873
C872
TK-437 94V-0 ⚠

Note (1)

PC Board Ass'y	Designated Areas
END-057 🄰	the U.S.A.
END-057 🄱	Canada
END-057 🄲	Other Countries
END-057 🄳	Australia , Europe
END-057 🄴 BS	the U.K.
END-057 🄵	West Germany

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q861	2SD1265A(O)	SILICON MATSUSHITA	C
	Q862	2SC2235(O,Y)	SILICON TOSHIBA	
	Q863	DTC143TS	SILICON ROHM	
	Q871	2SB1133(R,S)	SILICON SANYO	
	Q872	2SB1133(R,S)	SILICON SANYO	
	Q873	DTC144ES	SILICON ROHM	
	Q874	DTA114YS	SILICON ROHM	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	D861	ERA15-02L19	SILICON KYOUDOU	
⚠	D862	ERA15-02L19	SILICON KYOUDOU	
⚠	D863	ERA15-02L19	SILICON KYOUDOU	
⚠	D864	ERA15-02L19	SILICON KYOUDOU	
	D865	RD12JSB3	ZENER NEC	C
	D866	1SS133	SILICON ROHM	
	D867	RD6.2JSB3	ZENER NEC	
	D871	1SS133	SILICON ROHM	
	D872	RD15JSB3	ZENER NEC	
	D873	RD16JSB3	ZENER NEC	
	D874	RD9.1JSB3	ZENER NEC	
	D875	RD9.1JSB3	ZENER NEC	
	D876	RD10JSB3	ZENER NEC	
	D877	1SS133	SILICON ROHM	
	D878	RD10JSB3	ZENER NEC	
	D879	RD11JSB3	ZENER NEC	
	D881	1SS133	SILICON ROHM	
	D882	1SS133	SILICON ROHM	
	D883	1SS133	SILICON ROHM	
	D884	RD20JSB3	ZENER RYOSAN	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C001	QCZ9019-472	4700PF CERAMIC	A
	C001	QCZ9019-472	4700PF CERAMIC	B
	C001	QCZ9019-472	4700PF CERAMIC	C
	C001	QCZ9019-472	4700PF CERAMIC	D
	C001	QCZ9019-472BS	4700PF CERAMIC	EBS
	C001	QCZ9019-472	4700PF CERAMIC	F
	C861	QCE22HP-103	0.01MF 500V CERAMIC	
	C862	QCF21HP-472	4700PF 50V CERAMIC	C
	C863	QETB1EM-477	470MF 25V ELECTRO	A
	C863	QETB1EM-477	470MF 25V ELECTRO	B
	C863	QETB1JM-227	220MF 63V ELECTRO	C
	C863	QETB1EM-477	470MF 25V ELECTRO	D
	C863	QETB1EM-477	470MF 25V ELECTRO	EBS
	C863	QETB1EM-477	470MF 25V ELECTRO	F
	C864	QETB1CM-476	47MF 16V ELECTRO	
	C871	QCF21HP-472	4700PF 50V CERAMIC	
	C872	QETB1HM-227	220MF 50V ELECTRO	
	C873	QETB1HM-107	100MF 50V ELECTRO	
	C874	QETB1EM-476	47MF 25V ELECTRO	
	C875	QETB1EM-227	220MF 25V ELECTRO	
	C876	QETB1EM-476	47MF 25V ELECTRO	
	C877	QCF21HP-472	4700PF 50V CERAMIC	
	C881	QETB1HM-476	47MF 50V ELECTRO	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R001	QRC128K-275EM	2.7M 1/2W COMPOSI	A
⚠	R001	QRC128K-275EM	2.7M 1/2W COMPOSI	B
⚠	R861	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R861	QRD14CJ-100S	10 1/4W UNF.CARBON	B
⚠	R861	QRZ0076-3R3	3.3 1/4W FUSIBLE	C
⚠	R861	QRZ0077-100	10 1/4W FUSIBLE	D
⚠	R861	QRZ0077-220	22 1/4W FUSIBLE	EBS
⚠	R861	QRZ0077-220	22 1/4W FUSIBLE	F
⚠	R862	QRG012J-332AM	3.3K 1W O.M.FILM	C
	R863	QRD167J-821	820 1/6W CARBON	
⚠	R864	QRX022J-R22AM	0.22 2W M.FILM	A
⚠	R865	QRX022J-R22AM	0.22 2W M.FILM	A
⚠	R871	QRG022J-220A	22 2W O.M.FILM	
⚠	R874	QRD125J-681	680 1/2W UNF.CARBON	
⚠	R875	QRD14CJ-150S	15 1/4W UNF.CARBON	A
⚠	R875	QRD14CJ-150S	15 1/4W UNF.CARBON	B
⚠	R875	QRZ0077-150	15 1/4W FUSIBLE	C
⚠	R875	QRZ0077-150	15 1/4W FUSIBLE	D
⚠	R875	QRZ0077-150	15 1/4W FUSIBLE	EBS
⚠	R875	QRZ0077-150	15 1/4W FUSIBLE	F
	R876	QRD167J-270	27 1/6W CARBON	
	R877	QRD167J-270	27 1/6W CARBON	
⚠	R881	QRG022J-101AF	100 2W O.M.FILM	
⚠	R884	QRG022J-222AM	2.2K 2W O.M.FILM	
⚠	R885	QRD14CJ-220S	22 1/4W UNF.CARBON	A
⚠	R885	QRD14CJ-220S	22 1/4W UNF.CARBON	B
⚠	R885	QRZ0077-220	22 1/4W FUSIBLE	C
⚠	R885	QRZ0077-220	22 1/4W FUSIBLE	D
⚠	R885	QRZ0077-220	22 1/4W FUSIBLE	EBS
⚠	R885	QRZ0077-220	22 1/4W FUSIBLE	F
	R887	QRD167J-473	47K 1/6W CARBON	
	R888	QRD167J-100	10 1/6W CARBON	
	R891	QRD167J-103	10K 1/6W CARBON	
	R892	QRD167J-473	47K 1/6W CARBON	
	R893	QRD167J-103	10K 1/6W CARBON	
	R894	QRD167J-102	1K 1/6W CARBON	
	R895	QRD167J-103	10K 1/6W CARBON	
	R896	QRD167J-102	1K 1/6W CARBON	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMG7331-002	FUSE CLIP	
		EWS073-006	SOCKET WIRE	
		EWS112-005	SOCKET WIRE	
		E65508-002	TAB	
		E70945-H25B	HEAT SINK	
		SBSB3010CC	SCREW	
		EMG7331-002	FUSE CLIP	A
⚠		ETP1000-42JA	POWER TRANSFORMER	A
		E12054-003 (S)	CIRCUIT BOARD	A
		E70859-001	EARTH PLATE	A
⚠		QMC0440-001	AC OUTLET	A
		EMG7331-002	FUSE CLIP	B
⚠		ETP1000-42JA	POWER TRANSFORMER	B
		E12054-003 (S)	CIRCUIT BOARD	B
		E70859-001	EARTH PLATE	B
⚠		QMC0440-001	AC OUTLET	B
		EMG7331-002	FUSE CLIP	C
⚠		ETP1000-41ZB	POWER TRANSFORMER	C
		E12054-003 (S)	CIRCUIT BOARD	C
		E67132-T6R3	FUSE LABEL	C
		E70945-H40B	HEAT SINK	C
⚠		QMC0437-002	AC OUTLET	C
		EMG7331-002	FUSE CLIP	D
⚠		ETP1000-41EA	POWER TRANSFORMER	D
		E12054-003 (S)	CIRCUIT BOARD	D
		E67132-T3R15	FUSE LABEL	D
		E67132-T6R3	FUSE LABEL	D
		EMG7331-002	FUSE CLIP	EBS
⚠		ETP1000-41EABS	POWER TRANSFORMER	EBS
		E12054-003BS (S)	CIRCUIT BOARD	EBS
		E67132-T3R15	FUSE LABEL	EBS
		E67132-T6R3	FUSE LABEL	EBS
		EMG7331-002	FUSE CLIP	F
⚠		ETP1000-41EA	POWER TRANSFORMER	F
		E12054-003 (S)	CIRCUIT BOARD	F
		E67132-T3R15	FUSE LABEL	F
		E67132-T6R3	FUSE LABEL	F
	WT101	E67764-202	WRAPPING TERMINAL	
	WT103	E67764-202	WRAPPING TERMINAL	
	WT105	E67764-103	WRAPPING TERMINAL	
	P863	EMV7122-004	CONNECTOR	
	P865	EMV7122-003	CONNECTOR	
	P866	EMV7122-003	CONNECTOR	
	FW851	EWR33B-65LST	FLAT WIRE	
	FW861	EWR36B-20SST	FLAT WIRE	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	FW862	EWR35B-25SST	FLAT WIRE	
	RY001	ESK1D12-115	RELAY	A
	RY001	ESK1D12-115	RELAY	B
	RY001	ESK1D12-115	RELAY	C
	RY001	ESK1D12-115	RELAY	D
	RY001	ESK1D12-115BS	RELAY	EBS
	RY001	ESK1D12-115	RELAY	F
	WT001	E67764-102	WRAPPING TERMINAL	
	WT002	E67764-202	WRAPPING TERMINAL	
	WT003	E67764-202	WRAPPING TERMINAL	C

⚠ : SAFETY PARTS

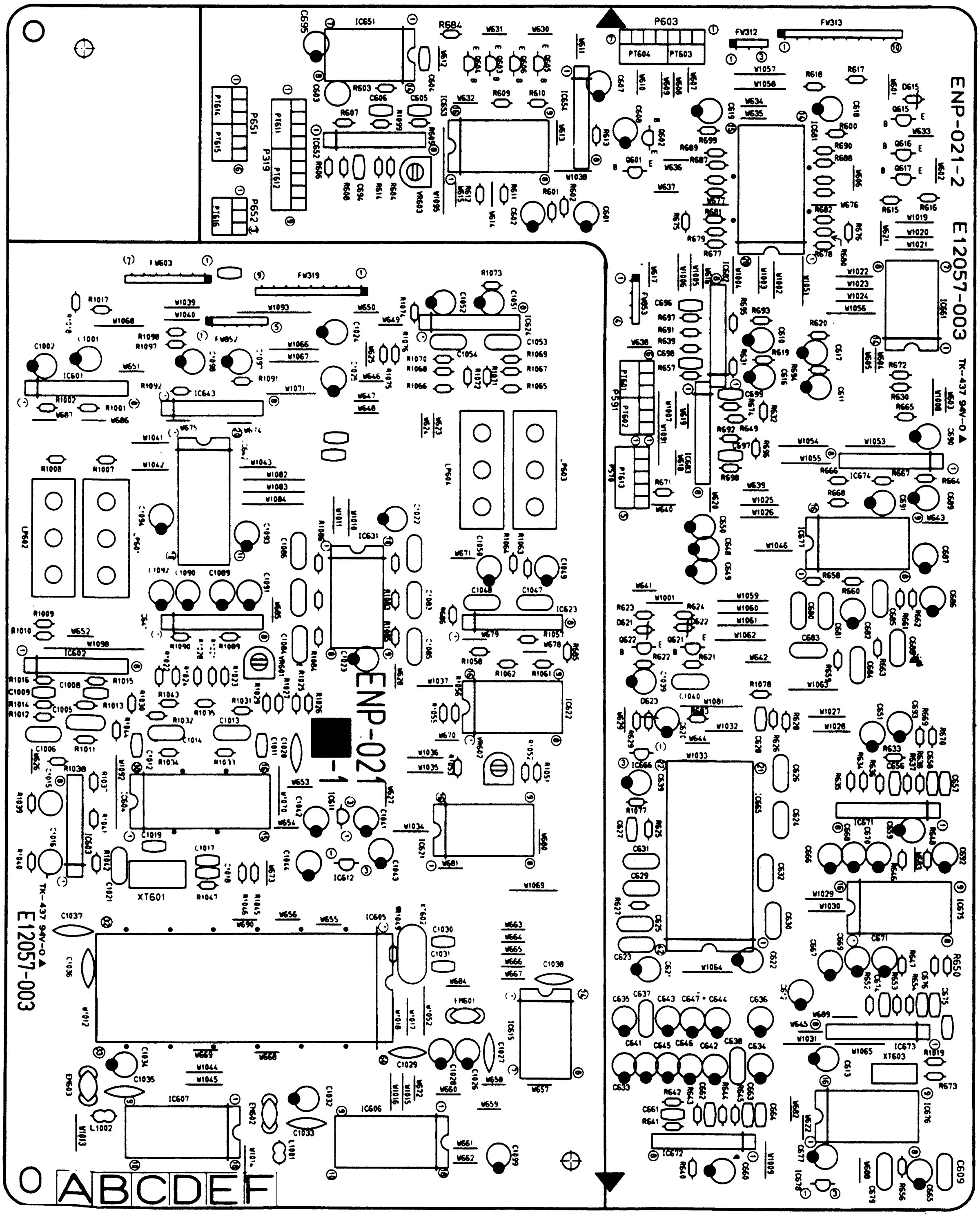
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	WT003	E67764-202	WRAPPING TERMINAL	D
	WT003	E67764-202	WRAPPING TERMINAL	EBS
	WT003	E67764-202	WRAPPING TERMINAL	F
	WT004	E67764-102	WRAPPING TERMINAL	C

⚠ : SAFETY PARTS

■ENP-021☐ Sorround / DAP PC Board Ass'y

Note : ENP-021☐ varies according to the areas employed. See note (1) when placing an order.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IC677
XT601
XT603
P651
P652
P319
P591
LP602
LP604
LP603
A B C D E F

Note (1)

PC Board Ass'y	Designated Areas
ENP-021 A	the U.S.A., Canada Other Countries
ENP-021 B	Australia, Europe, the U.K.
ENP-021 C	West Germany

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q601	DTA114YS	SILICON ROHM	
	Q602	DTC144ES	SILICON ROHM	
	Q603	DTC144ES	SILICON ROHM	
	Q604	DTA114YS	SILICON ROHM	
	Q605	DTC144ES	SILICON ROHM	
	Q606	DTA114YS	SILICON ROHM	
	Q615	DTA114YS	SILICON ROHM	
	Q616	DTC144ES	SILICON ROHM	
	Q617	DTA114YS	SILICON ROHM	
	Q621	2SC1685(Q,R)	SILICON MATSUSHITA	
	Q622	2SC1685(Q,R)	SILICON MATSUSHITA	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC601	VC4580L	I.C. DAINICHI	
	IC602	VC4580L	I.C. DAINICHI	
	IC603	VC4580L	I.C. DAINICHI	
	IC604	TD6726N	I.C. TOSHIBA	
	IC605	VC4097-008	I.C. TOSHIBA	
	IC606	TMM41464AP-12	I.C. TOSHIBA	
	IC607	TMM41464AP-12	I.C. TOSHIBA	
	IC611	NJM78L05A	I.C. DAINICHI	
	IC612	NJM79L05A	I.C. DAINICHI	
	IC615	TC74HC02AP	I.C. TOSHIBA	
	IC621	PCM56P	I.C. NIHONBARBURAUN	
	IC622	UPD4053BC	I.C. NEC	
	IC623	VC4580L	I.C. DAINICHI	
	IC624	VC4580L	I.C. DAINICHI	
	IC631	TC4052BP	I.C. TOSHIBA	
	IC641	VC4580L	I.C. DAINICHI	
	IC642	TC9177P	I.C. TOSHIBA	
	IC643	VC4580L	I.C. DAINICHI	
	IC651	TC4011UBP	I.C. 1509	
	IC652	VC4580L	I.C. DAINICHI	
	IC653	TC4052BP	I.C. TOSHIBA	
	IC654	VC4580L	I.C. DAINICHI	
	IC661	LC4966	I.C. SANYO	
	IC665	LA2770	I.C. SANYO	
	IC666	NJM78L12A	I.C. DAINICHI	
	IC671	VC4580L	I.C. DAINICHI	
	IC672	VC4580L	I.C. DAINICHI	
	IC673	VC4580L	I.C. DAINICHI	
	IC674	VC4580L	I.C. DAINICHI	
	IC675	UPC1571C	I.C. NEC	
	IC676	YM3428	I.C. YAMAHA	
	IC677	LA2730	I.C. SANYO	
	IC678	NJM78L05A	I.C. DAINICHI	
	IC681	TC9163N	I.C. TOSHIBA	
	IC682	VC4580L	I.C. DAINICHI	
	IC683	VC4580L	I.C. DAINICHI	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D615	MTZ12JC	ZENER ROHM	
	D621	MTZ3.0JB	ZENER ROHM	
	D622	MTZ3.0JB	ZENER ROHM	
	D623	MTZ6.2JC	ZENER ROHM	
	D624	MA700	ZENER MATSUSHITA	
	D625	MA700	ZENER MATSUSHITA	
	D626	1SS133	SILICON ROHM	
	D627	1SS133	SILICON ROHM	
	D628	1SS133	SILICON ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C601	QETB1CM-107	100MF 16V ELECTRO	
	C602	QETB1CM-107	100MF 16V ELECTRO	
	C603	QEN51HM-105	1MF 50V NON POLE	
	C604	QCVB1CM-103	0.01MF 16V CERAMIC	
	C605	QCGB1HK-102	1000PF 50V CERAMIC	
	C606	QCVB1CM-103	0.01MF 16V CERAMIC	
	C607	QETB1HM-105	1MF 50V ELECTRO	
	C608	QETB1HM-105	1MF 50V ELECTRO	
	C609	QCZ0205-155	1.5MF 25V CERAMIC	
	C610	QETB1HM-105	1MF 50V ELECTRO	
	C611	QETB1HM-105	1MF 50V ELECTRO	
	C612	QETB1EM-476	47MF 25V ELECTRO	
	C613	QETB1EM-476	47MF 25V ELECTRO	
	C616	QETB1HM-105	1MF 50V ELECTRO	
	C617	QETB1HM-105	1MF 50V ELECTRO	
	C618	QETB1EM-106	10MF 25V ELECTRO	
	C619	QETB1EM-106	10MF 25V ELECTRO	
	C620	QETB1EM-476	47MF 25V ELECTRO	
	C621	QEK61EM-475G	4.7MF 25V ELECTRO	
	C622	QEK61EM-475G	4.7MF 25V ELECTRO	
	C623	QFV81HJ-104	0.1MF 50V T.FILM	
	C624	QFV81HJ-104	0.1MF 50V T.FILM	
	C625	QFV81HJ-104	0.1MF 50V T.FILM	
	C626	QFV81HJ-104	0.1MF 50V T.FILM	
	C627	QCBB1HK-681	680PF 50V CERAMIC	
	C628	QCBB1HK-681	680PF 50V CERAMIC	
	C629	QFV81HJ-334	0.33MF 50V T.FILM	
	C630	QFV81HJ-154	0.15MF 50V T.FILM	
	C631	QFV81HJ-334	0.33MF 50V T.FILM	
	C632	QFV81HJ-154	0.15MF 50V T.FILM	
	C633	QEK61EM-475G	4.7MF 25V ELECTRO	
	C634	QEK61EM-475G	4.7MF 25V ELECTRO	
	C635	QEK61EM-475G	4.7MF 25V ELECTRO	
	C636	QEK61EM-475G	4.7MF 25V ELECTRO	
	C637	QFN81HK-682	6800PF 50V MYLAR	
	C638	QFN81HK-682	6800PF 50V MYLAR	
	C639	QETB1CM-107	100MF 16V ELECTRO	
	C641	QEK61HM-224G	0.22MF 50V ELECTRO	
	C642	QEK61HM-224G	0.22MF 50V ELECTRO	
	C643	QEK61EM-475G	4.7MF 25V ELECTRO	
	C644	QEK61EM-475G	4.7MF 25V ELECTRO	
	C645	QEK61HM-224G	0.22MF 50V ELECTRO	
	C646	QEK61HM-224G	0.22MF 50V ELECTRO	
	C647	QETB1EM-476	47MF 25V ELECTRO	
	C648	QEK61HM-105G	1MF 50V ELECTRO	
	C649	QEK61HM-105G	1MF 50V ELECTRO	
	C650	QEK61HM-105G	1MF 50V ELECTRO	
	C651	QEK61HM-105G	1MF 50V ELECTRO	
	C656	QCBB1HK-681	680PF 50V CERAMIC	
	C657	QCSB1HJ-680	68PF 50V CERAMIC	
	C658	QCBB1HK-271	270PF 50V CERAMIC	
	C659	QETB1EM-106	10MF 25V ELECTRO	
	C660	QETB1EM-106	10MF 25V ELECTRO	
	C661	QCBB1HK-101	100PF 50V CERAMIC	
	C662	QCBB1HK-681	680PF 50V CERAMIC	
	C663	QCBB1HK-271	270PF 50V CERAMIC	
	C664	QCSB1HJ-680	68PF 50V CERAMIC	
	C665	QETC1HM-225	2.2MF 50V ELECTRO	
	C666	QEK61HM-225G	2.2MF 50V ELECTRO	
	C667	QEK61HM-225G	2.2MF 50V ELECTRO	
	C668	QEK61CM-106G	10MF 16V ELECTRO	
	C669	QEK61CM-106G	10MF 16V ELECTRO	
	C670	QEK61EM-475G	4.7MF 25V ELECTRO	
	C671	QEK61EM-475G	4.7MF 25V ELECTRO	
	C673	QCBB1HK-101	100PF 50V CERAMIC	
	C674	QCBB1HK-681	680PF 50V CERAMIC	
	C675	QCSB1HJ-680	68PF 50V CERAMIC	
	C676	QCBB1HK-271	270PF 50V CERAMIC	
	C677	QETB1EM-476	47MF 25V ELECTRO	
	C679	QFP81HJ-102	1000PF 50V POLY	
	C680	QFV81HJ-334	0.33MF 50V T.FILM	
	C681	QFV81HJ-104	0.1MF 50V T.FILM	
	C682	QETB1HM-105	1MF 50V ELECTRO	
	C683	QFN81HJ-333	0.033MF 50V MYLAR	
	C684	QFN81HJ-273	0.027MF 50V MYLAR	
	C685	QFN81HJ-472	4700PF 50V MYLAR	
	C686	QETB1AM-107	100MF 10V ELECTRO	
	C687	QETB1EM-226	22MF 25V ELECTRO	
	C688	QFN81HJ-562	5600PF 50V MYLAR	
	C689	QETB1HM-105	1MF 50V ELECTRO	
	C690	QETB1EM-106	10MF 25V ELECTRO	
	C691	QETB1HM-105	1MF 50V ELECTRO	
	C692	QEK61CM-106G	10MF 16V ELECTRO	
	C693	QETB1HM-105	1MF 50V ELECTRO	
	C694	QCVB1CM-103	0.01MF 16V CERAMIC	
	C695	QEK61CM-106G	10MF 16V ELECTRO	
	C696	QCBB1HK-101	100PF 50V CERAMIC	
	C697	QCBB1HK-101	100PF 50V CERAMIC	
	C698	QCBB1HK-101	100PF 50V CERAMIC	
	C699	QCBB1HK-101	100PF 50V CERAMIC	
	C1001	QETB1EM-106	10MF 25V ELECTRO	
	C1002	QETB1EM-106	10MF 25V ELECTRO	
	C1005	QFN81HJ-472	4700PF 50V MYLAR	
	C1006	QFN81HJ-472	4700PF 50V MYLAR	
	C1008	QCBB1HK-101	100PF 50V CERAMIC	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C1009	QCBB1HK-101	100PF 50V CERAMIC	
	C1011	QCT30CH-180	18PF 50V CERAMIC	
	C1012	QCT30CH-180	18PF 50V CERAMIC	
	C1013	QFP81HJ-182	1800PF 50V POLY	
	C1014	QFP81HJ-182	1800PF 50V POLY	
	C1015	QEN51HM-225	2.2MF 50V NON POLE	
	C1016	QEN51HM-225	2.2MF 50V NON POLE	
	C1017	QCXB1CM-472	4700PF 16V CERAMIC	
	C1018	QCT30CH-100	10PF 50V CERAMIC	
	C1019	QCT30CH-5R6	5.6PF 50V CERAMIC	
	C1020	QCF21HP-473	0.047MF 50V CERAMIC	
	C1021	QCZ0205-155	1.5MF 25V CERAMIC	
	C1022	QETB1EM-476	47MF 25V ELECTRO	
	C1023	QETB1EM-476	47MF 25V ELECTRO	
	C1024	QETB1EM-107	100MF 25V ELECTRO	
	C1025	QETB1EM-107	100MF 25V ELECTRO	
	C1026	QETB1CM-476	47MF 16V ELECTRO	
	C1027	QCF21HP-473	0.047MF 50V CERAMIC	
	C1028	QETB1CM-476	47MF 16V ELECTRO	
	C1029	QCF21HP-473	0.047MF 50V CERAMIC	
	C1030	QCT30CH-100	10PF 50V CERAMIC	
	C1031	QCT30CH-100	10PF 50V CERAMIC	
	C1032	QETB1CM-476	47MF 16V ELECTRO	
	C1033	QCF21HP-473	0.047MF 50V CERAMIC	
	C1034	QETB1CM-476	47MF 16V ELECTRO	
	C1035	QCF21HP-473	0.047MF 50V CERAMIC	
	C1036	QCF21HP-473	0.047MF 50V CERAMIC	
	C1037	QCF21HP-473	0.047MF 50V CERAMIC	
	C1038	QCF21HP-473	0.047MF 50V CERAMIC	
	C1039	QETB1EM-106	10MF 25V ELECTRO	
	C1040	QFV81HJ-474	0.47MF 50V T.FILM	
	C1041	QETB1EM-476	47MF 25V ELECTRO	
	C1042	QETB1EM-476	47MF 25V ELECTRO	
	C1043	QETB1EM-476	47MF 25V ELECTRO	
	C1044	QETB1EM-476	47MF 25V ELECTRO	
	C1047	QFP81HJ-221	220PF 50V POLY	
	C1048	QFP81HJ-221	220PF 50V POLY	
	C1049	QETB1EM-106	10MF 25V ELECTRO	
	C1050	QETB1EM-106	10MF 25V ELECTRO	
	C1051	QETB1EM-106	10MF 25V ELECTRO	
	C1052	QETB1EM-106	10MF 25V ELECTRO	
	C1053	QFP81HJ-751	750PF 50V POLY	
	C1054	QFP81HJ-751	750PF 50V POLY	
	C1083	QFN81HJ-822	8200PF 50V MYLAR	
	C1084	QFN81HJ-822	8200PF 50V MYLAR	
	C1085	QFN81HJ-273	0.027MF 50V MYLAR	
	C1086	QFN81HJ-273	0.027MF 50V MYLAR	
	C1089	QETB1HM-225	2.2MF 50V ELECTRO	
	C1090	QETB1HM-225	2.2MF 50V ELECTRO	
	C1091	QETB1EM-106	10MF 25V ELECTRO	
	C1092	QETB1EM-106	10MF 25V ELECTRO	
	C1093	QETB1EM-106	10MF 25V ELECTRO	
	C1094	QETB1EM-106	10MF 25V ELECTRO	
	C1097	QETB1HM-105	1MF 50V ELECTRO	
	C1098	QETB1HM-105	1MF 50V ELECTRO	
	C1099	QETB1HM-474	0.47MF 50V ELECTRO	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R600	QRD167J-104	100K 1/6W CARBON	
	R601	QRD167J-152	1.5K 1/6W CARBON	
	R602	QRD167J-152	1.5K 1/6W CARBON	
	R603	QRD167J-104	100K 1/6W CARBON	
	R604	QRD167J-221	220 1/6W CARBON	
	R605	QRD167J-104	100K 1/6W CARBON	
	R606	QRD167J-104	100K 1/6W CARBON	
	R607	QRD167J-622	6.2K 1/6W CARBON	
	R608	QRD167J-153	15K 1/6W CARBON	
	R609	QRD167J-103	10K 1/6W CARBON	
	R610	QRD167J-103	10K 1/6W CARBON	
	R611	QRD167J-104	100K 1/6W CARBON	
	R612	QRD167J-104	100K 1/6W CARBON	
	R613	QRD167J-104	100K 1/6W CARBON	
	R614	QRD167J-223	22K 1/6W CARBON	
	R615	QRD167J-103	10K 1/6W CARBON	
	R616	QRD167J-103	10K 1/6W CARBON	
	R617	QRD167J-103	10K 1/6W CARBON	
	R618	QRD167J-103	10K 1/6W CARBON	
	R619	QRD167J-104	100K 1/6W CARBON	
	R620	QRD167J-104	100K 1/6W CARBON	
	R621	QRD167J-474	470K 1/6W CARBON	
	R622	QRD167J-474	470K 1/6W CARBON	
	R623	QRD167J-103	10K 1/6W CARBON	
	R624	QRD167J-103	10K 1/6W CARBON	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R625	QRD167J-473	47K 1/6W CARBON	
	R626	QRD167J-473	47K 1/6W CARBON	
	R627	QRD167J-752	7.5K 1/6W CARBON	
	R628	QRD167J-752	7.5K 1/6W CARBON	
	R629	QRD167J-152	1.5K 1/6W CARBON	
	R630	QRD167J-104	100K 1/6W CARBON	
	R631	QRD167J-104	100K 1/6W CARBON	
	R632	QRD167J-104	100K 1/6W CARBON	
	R633	QRD167J-104	100K 1/6W CARBON	
	R634	QRD167J-203	20K 1/6W CARBON	
	R635	QRD167J-103	10K 1/6W CARBON	
	R636	QRD167J-103	10K 1/6W CARBON	
	R637	QRD167J-104	100K 1/6W CARBON	
	R638	QRD167J-104	100K 1/6W CARBON	
	R639	QRD167J-103	10K 1/6W CARBON	
	R640	QRD167J-104	100K 1/6W CARBON	
	R641	QRD167J-103	10K 1/6W CARBON	
	R642	QRD167J-103	10K 1/6W CARBON	
	R643	QRD167J-103	10K 1/6W CARBON	
	R644	QRD167J-104	100K 1/6W CARBON	
	R645	QRD167J-104	100K 1/6W CARBON	
	R646	QRD167J-473	47K 1/6W CARBON	
	R647	QRD167J-183	18K 1/6W CARBON	
	R648	QRD167J-473	47K 1/6W CARBON	
	R649	QRD167J-103	10K 1/6W CARBON	
	R650	QRD167J-622	6.2K 1/6W CARBON	
	R651	QRD167J-103	10K 1/6W CARBON	
	R652	QRD167J-103	10K 1/6W CARBON	
	R653	QRD167J-104	100K 1/6W CARBON	
	R654	QRD167J-104	100K 1/6W CARBON	
	R656	QRD167J-473	47K 1/6W CARBON	
	R657	QRD167J-333	33K 1/6W CARBON	
	R658	QRD167J-274	270K 1/6W CARBON	
	R659	QRD167J-622	6.2K 1/6W CARBON	
	R660	QRD167J-274	270K 1/6W CARBON	
	R661	QRD167J-473	47K 1/6W CARBON	
	R662	QRD167J-332	3.3K 1/6W CARBON	
	R663	QRD167J-181	180 1/6W CARBON	
	R664	QRD167J-183	18K 1/6W CARBON	
	R665	QRD167J-104	100K 1/6W CARBON	
	R666	QRD167J-104	100K 1/6W CARBON	
	R667	QRD167J-273	27K 1/6W CARBON	
	R668	QRD167J-223	22K 1/6W CARBON	
	R669	QRD167J-103	10K 1/6W CARBON	
	R670	QRD167J-622	6.2K 1/6W CARBON	
	R671	QRD167J-104	100K 1/6W CARBON	
	R672	QRD167J-104	100K 1/6W CARBON	
	R673	QRD167J-272	2.7K 1/6W CARBON	
	R674	QRD167J-333	33K 1/6W CARBON	
	R675	QRD167J-104	100K 1/6W CARBON	
	R676	QRD167J-104	100K 1/6W CARBON	
	R677	QRD167J-103	10K 1/6W CARBON	
	R678	QRD167J-103	10K 1/6W CARBON	
	R679	QRD167J-103	10K 1/6W CARBON	
	R680	QRD167J-103	10K 1/6W CARBON	
	R681	QRD167J-103	10K 1/6W CARBON	
	R682	QRD167J-103	10K 1/6W CARBON	
	R683	QRD167J-104	100K 1/6W CARBON	
	R684	QRD167J-102	1K 1/6W CARBON	
	R685	QRD167J-474	470K 1/6W CARBON	
	R686	QRD167J-474	470K 1/6W CARBON	
	R687	QRD167J-103	10K 1/6W CARBON	
	R688	QRD167J-103	10K 1/6W CARBON	
	R689	QRD167J-103	10K 1/6W CARBON	
	R690	QRD167J-103	10K 1/6W CARBON	
	R691	QRD167J-103	10K 1/6W CARBON	
	R692	QRD167J-103	10K 1/6W CARBON	
	R693	QRD167J-104	100K 1/6W CARBON	
	R694	QRD167J-104	100K 1/6W CARBON	
	R695	QRD167J-104	100K 1/6W CARBON	
	R696	QRD167J-104	100K 1/6W CARBON	
	R697	QRD167J-333	33K 1/6W CARBON	
	R698	QRD167J-103	10K 1/6W CARBON	
	R699	QRD167J-104	100K 1/6W CARBON	
	R1001	QRD167J-104	100K 1/6W CARBON	
	R1002	QRD167J-104	100K 1/6W CARBON	
	R1007	QRD167J-562	5.6K 1/6W CARBON	
	R1008	QRD167J-562	5.6K 1/6W CARBON	
	R1009	QRD167J-562	5.6K 1/6W CARBON	
	R1010	QRD167J-562	5.6K 1/6W CARBON	
	R1011	QRD167J-302	3K 1/6W CARBON	
	R1012	QRD167J-302	3K 1/6W CARBON	
	R1013	QRD167J-103	10K 1/6W CARBON	
	R1014	QRD167J-103	10K 1/6W CARBON	
	R1015	QRD167J-103	10K 1/6W CARBON	
	R1016	QRD167J-103	10K 1/6W CARBON	
	R1017	QRD167J-104	100K 1/6W CARBON	
	R1018	QRD167J-104	100K 1/6W CARBON	
	R1019	QRD167J-105	1M 1/6W CARBON	
	R1021	QRD167J-432	4.3K 1/6W CARBON	
	R1022	QRD167J-432	4.3K 1/6W CARBON	
	R1023	QRD167J-432	4.3K 1/6W CARBON	
	R1024	QRD167J-432	4.3K 1/6W CARBON	
	R1025	QRD167J-222	2.2K 1/6W CARBON	
	R1026	QRD167J-222	2.2K 1/6W CARBON	
	R1027	QRD167J-103	10K 1/6W CARBON	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R1028	QRD167J-392	3.9K 1/6W CARBON	
	R1029	QRD167J-102	1K 1/6W CARBON	
	R1030	QRD167J-102	1K 1/6W CARBON	
	R1031	QRD167J-102	1K 1/6W CARBON	
	R1032	QRD167J-102	1K 1/6W CARBON	
	R1033	QRD167J-432	4.3K 1/6W CARBON	
	R1034	QRD167J-432	4.3K 1/6W CARBON	
	R1035	QRD167J-133	13K 1/6W CARBON	
	R1037	QRD167J-222	2.2K 1/6W CARBON	
	R1038	QRD167J-222	2.2K 1/6W CARBON	
	R1039	QRD167J-473	47K 1/6W CARBON	
	R1040	QRD167J-473	47K 1/6W CARBON	
	R1041	QRD167J-473	47K 1/6W CARBON	
	R1042	QRD167J-473	47K 1/6W CARBON	
	R1043	QRD167J-821	820 1/6W CARBON	
	R1044	QRD167J-162	1.6K 1/6W CARBON	
	R1045	QRD167J-102	1K 1/6W CARBON	
	R1046	QRD167J-102	1K 1/6W CARBON	
	R1047	QRD167J-561	560 1/6W CARBON	
	R1049	QRD167J-105	1M 1/6W CARBON	
	R1051	QRD167J-105	1M 1/6W CARBON	
	R1052	QRD167J-474	470K 1/6W CARBON	
	R1053	QRD167J-224	220K 1/6W CARBON	
	R1055	QRD167J-242	2.4K 1/6W CARBON	
	R1056	QRD167J-242	2.4K 1/6W CARBON	
	R1057	QRD167J-222	2.2K 1/6W CARBON	
	R1058	QRD167J-222	2.2K 1/6W CARBON	
	R1061	QRD167J-102	1K 1/6W CARBON	
	R1062	QRD167J-102	1K 1/6W CARBON	
	R1063	QRD167J-562	5.6K 1/6W CARBON	
	R1064	QRD167J-562	5.6K 1/6W CARBON	
	R1065	QRD167J-562	5.6K 1/6W CARBON	
	R1066	QRD167J-562	5.6K 1/6W CARBON	
	R1067	QRD167J-473	47K 1/6W CARBON	
	R1068	QRD167J-473	47K 1/6W CARBON	
	R1069	QRD167J-153	15K 1/6W CARBON	
	R1070	QRD167J-153	15K 1/6W CARBON	
	R1071	QRD167J-153	15K 1/6W CARBON	
	R1072	QRD167J-153	15K 1/6W CARBON	
	R1073	QRD167J-104	100K 1/6W CARBON	
	R1074	QRD167J-104	100K 1/6W CARBON	
	R1075	QRD167J-272	2.7K 1/6W CARBON	
	R1076	QRD167J-272	2.7K 1/6W CARBON	
	R1077	QRD167J-153	15K 1/6W CARBON	
	R1078	QRD167J-153	15K 1/6W CARBON	
	R1083	QRD167J-224	220K 1/6W CARBON	
	R1084	QRD167J-224	220K 1/6W CARBON	
	R1085	QRD167J-224	220K 1/6W CARBON	
	R1086	QRD167J-224	220K 1/6W CARBON	
	R1089	QRD167J-474	470K 1/6W CARBON	
	R1090	QRD167J-474	470K 1/6W CARBON	
	R1091	QRD167J-104	100K 1/6W CARBON	
	R1092	QRD167J-104	100K 1/6W CARBON	
	R1097	QRD167J-104	100K 1/6W CARBON	
	R1098	QRD167J-104	100K 1/6W CARBON	
	R1099	QRD167J-473	47K 1/6W CARBON	
	VR601	QVPA601-202A	2K VARIABLE	
	VR602	QVPA601-104A	100K VARIABLE	
	VR603	QVPA601-102A	1K VARIABLE	

⚠ : SAFETY PARTS

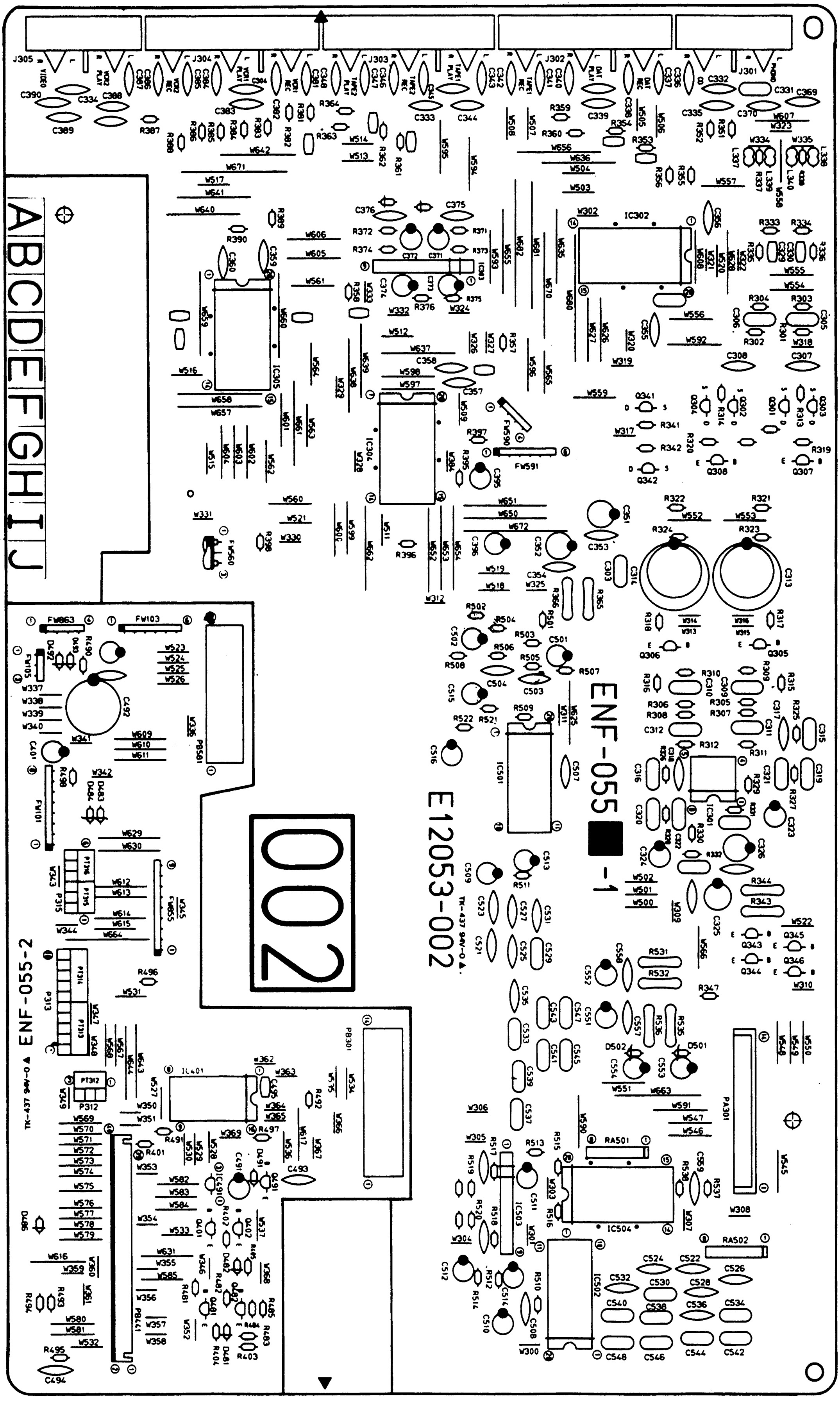
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12057-003	CIRCUIT BOARD	
	EM601	EQF0601-222T	EMI FILTER	
	EM602	EQF0601-222T	EMI FILTER	
	EM603	EQF0601-222T	EMI FILTER	
	FW312	EWR33B-16LST	FLAT WIRE	
	FW313	EWR3AB-20LST	FLAT WIRE	
	FW319	EWR39B-40LST	FLAT WIRE	
	FW603	EWR37B-35LST	FLAT WIRE	
	FW852	EWR35B-35LST	FLAT WIRE	
	FW853	EWR34B-13LST	FLAT WIRE	
	LP601	EQF0101-008	LOW PASS FILTER	
	LP602	EQF0101-008	LOW PASS FILTER	
	LP603	EQF0101-008	LOW PASS FILTER	
	LP604	EQF0101-008	LOW PASS FILTER	
	L1001	EQL4004-1R0	INDUCTOR	
	L1002	EQL4004-1R0	INDUCTOR	
	PT601	EMV7122-003	CONNECTOR	
	PT602	EMV7122-003	CONNECTOR	
	PT603	EMV7122-003	CONNECTOR	
	PT604	EMV7122-004	CONNECTOR	
	PT611	EMV7122-004	CONNECTOR	
	PT612	EMV7122-005	CONNECTOR	
	PT613	EMV7122-005	CONNECTOR	
	PT614	EMV7122-003	CONNECTOR	
	PT615	EMV7122-003	CONNECTOR	
	PT616	EMV7122-003	CONNECTOR	
	XT601	F65SM	CRYSTAL	
	XT602	ECX0012-288KF	RESONATOR	
	XT603	ECX0003-580KM	RESONATOR	

⚠ : SAFETY PARTS

■ENF-055☐ Source Selector / SEA PC Board Ass'y

Note : ENF-055☐ varies according to the areas employed. See note (1) when placing an order.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PB301
PB581
PB441
PA301
RA501
RA502
C313
C314
C492

Note (1)

PC Board Ass'y	Designated Areas
ENF-055 A	the U.S.A. ,Canada
ENF-055 B	Australia , Europe , the U.K.
ENF-055 C	West Germany
ENF-055 D	Other Countries

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q301	2SK170(BL)	F.E.T TOSHIBA	
	Q302	2SK170(BL)	F.E.T TOSHIBA	
	Q303	2SK170(BL)	F.E.T TOSHIBA	
	Q304	2SK170(BL)	F.E.T TOSHIBA	
	Q305	2SD655(E,F)	SILICON HITACHI	
	Q306	2SD655(E,F)	SILICON HITACHI	
	Q307	2SD655(E,F)	SILICON HITACHI	
	Q308	2SD655(E,F)	SILICON HITACHI	
	Q341	2SK163(L1)	F.E.T NEC	
	Q342	2SK163(L1)	F.E.T NEC	
	Q343	DTA114YS	SILICON ROHM	
	Q344	DTA114YS	SILICON ROHM	
	Q345	DTC144ES	SILICON ROHM	
	Q346	DTC144ES	SILICON ROHM	
	Q401	2SC458(C,D)	SILICON HITACHI	
	Q402	2SC458(C,D)	SILICON HITACHI	
	Q481	2SC458(C,D)	SILICON HITACHI	
	Q482	2SC458(C,D)	SILICON HITACHI	
	Q491	DTC114YS	SILICON ROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC301	NJM4560DD	I.C. DAINICHI	
	IC302	TC9164N	I.C. TOSHIBA	
	IC303	NJM4560SD	I.C. DAINICHI	
	IC304	TC9162N	I.C. TOSHIBA	
	IC305	TC9163N	I.C. TOSHIBA	
	IC401	TC74HC595AP	I.C. TOSHIBA	
	IC491	MN1281(P,Q)	I.C. MATSUSHITA	
	IC501	LA3607S	I.C. SANYO	
	IC502	LA3607S	I.C. SANYO	
	IC503	NJM4560SD	I.C. DAINICHI	
	IC504	LC7522	I.C. SANYO	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D481	1SS119	SILICON HITACHI	
	D482	1SS119	SILICON HITACHI	
	D483	RD5.1JSB3	ZENER NEC	
	D484	RD5.1JSB3	ZENER NEC	
	D486	1SS119	SILICON HITACHI	
	D491	1SS119	SILICON HITACHI	
	D492	1SS119	SILICON HITACHI	
	D493	1SS119	SILICON HITACHI	
	D501	RD6.8JSB3	ZENER NEC	
	D502	RD6.8JSB3	ZENER NEC	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C303	QFN81HK-223	0.022MF 50V MYLAR	
	C304	QCF21HP-223	0.022MF 50V CERAMIC	
	C305	QFN81HJ-103	0.01MF 50V MYLAR	
	C306	QFN81HJ-103	0.01MF 50V MYLAR	
	C307	QCS21HJ-680	68PF 50V CERAMIC	A
	C307	QCS21HJ-680	68PF 50V CERAMIC	B
	C307	QCS21HJ-101	100PF 50V CERAMIC	C
	C307	QCS21HJ-680	68PF 50V CERAMIC	D
	C308	QCS21HJ-680	68PF 50V CERAMIC	A
	C308	QCS21HJ-680	68PF 50V CERAMIC	B

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C308	QCS21HJ-101	100PF 50V CERAMIC	C
	C308	QCS21HJ-680	68PF 50V CERAMIC	D
	C309	QFN81HJ-822	8200PF 50V MYLAR	
	C310	QFN81HJ-822	8200PF 50V MYLAR	
	C311	QFN81HJ-392	3900PF 50V MYLAR	
	C312	QFN81HJ-392	3900PF 50V MYLAR	
	C313	QETB0JM-228	2200MF 6.3V ELECTRO	
	C314	QETB0JM-228	2200MF 6.3V ELECTRO	
	C315	QFN81HJ-472	4700PF 50V MYLAR	
	C316	QFN81HJ-472	4700PF 50V MYLAR	
	C317	QCS21HJ-331	330PF 50V CERAMIC	
	C318	QCS21HJ-331	330PF 50V CERAMIC	
	C319	QFN81HJ-153	0.015MF 50V MYLAR	
	C320	QFN81HJ-153	0.015MF 50V MYLAR	
	C321	QFN81HJ-272	2700PF 50V MYLAR	
	C322	QFN81HJ-272	2700PF 50V MYLAR	
	C323	QETB1HM-475	4.7MF 50V ELECTRO	
	C324	QETB1HM-475	4.7MF 50V ELECTRO	
	C325	QETB1EM-107	100MF 25V ELECTRO	
	C326	QETB1EM-107	100MF 25V ELECTRO	
	C329	QCBB1HK-151	150PF 50V CERAMIC	
	C330	QCBB1HK-151	150PF 50V CERAMIC	
	C331	QFV81HJ-224	0.22MF 50V T.FILM	
	C332	QCF21HP-223	0.022MF 50V CERAMIC	
	C333	QCF21HP-223	0.022MF 50V CERAMIC	
	C334	QCF21HP-223	0.022MF 50V CERAMIC	
	C335	QCS21HJ-331	330PF 50V CERAMIC	C
	C336	QCS21HJ-331	330PF 50V CERAMIC	C
	C337	QCS21HJ-331	330PF 50V CERAMIC	C
	C338	QCS21HJ-331	330PF 50V CERAMIC	C
	C339	QCS21HJ-331	330PF 50V CERAMIC	C
	C340	QCS21HJ-331	330PF 50V CERAMIC	C
	C341	QCS21HJ-331	330PF 50V CERAMIC	C
	C342	QCS21HJ-331	330PF 50V CERAMIC	C
	C343	QCS21HJ-331	330PF 50V CERAMIC	C
	C344	QCS21HJ-331	330PF 50V CERAMIC	C
	C345	QCS21HJ-331	330PF 50V CERAMIC	C
	C346	QCS21HJ-331	330PF 50V CERAMIC	C
	C347	QCS21HJ-331	330PF 50V CERAMIC	C
	C348	QCS21HJ-331	330PF 50V CERAMIC	C
	C351	QETB1EM-476	47MF 25V ELECTRO	
	C352	QETB1EM-476	47MF 25V ELECTRO	
	C353	QCF21HP-223	0.022MF 50V CERAMIC	
	C354	QCF21HP-223	0.022MF 50V CERAMIC	
	C355	QCF21HP-223	0.022MF 50V CERAMIC	
	C356	QCF21HP-223	0.022MF 50V CERAMIC	
	C357	QCF21HP-223	0.022MF 50V CERAMIC	
	C358	QCF21HP-223	0.022MF 50V CERAMIC	
	C359	QCF21HP-223	0.022MF 50V CERAMIC	
	C360	QCF21HP-223	0.022MF 50V CERAMIC	
	C369	QCS21HJ-471	470PF 50V CERAMIC	C
	C370	QCS21HJ-471	470PF 50V CERAMIC	C
	C371	QETB1EM-106	10MF 25V ELECTRO	
	C372	QETB1EM-106	10MF 25V ELECTRO	
	C373	QETB1EM-106	10MF 25V ELECTRO	
	C374	QETB1EM-106	10MF 25V ELECTRO	
	C375	QCS21HJ-221	220PF 50V CERAMIC	C
	C376	QCS21HJ-221	220PF 50V CERAMIC	C
	C381	QCS21HJ-221	220PF 50V CERAMIC	C
	C382	QCS21HJ-221	220PF 50V CERAMIC	C
	C383	QCS21HJ-331	330PF 50V CERAMIC	C
	C384	QCS21HJ-331	330PF 50V CERAMIC	C
	C385	QCS21HJ-221	220PF 50V CERAMIC	C
	C386	QCS21HJ-221	220PF 50V CERAMIC	C
	C387	QCS21HJ-331	330PF 50V CERAMIC	C
	C388	QCS21HJ-331	330PF 50V CERAMIC	C
	C389	QCS21HJ-331	330PF 50V CERAMIC	C
	C390	QCS21HJ-331	330PF 50V CERAMIC	C
	C395	QETB1EM-106	10MF 25V ELECTRO	
	C396	QETB1EM-106	10MF 25V ELECTRO	
	C401	QETB1HM-475	4.7MF 50V ELECTRO	
	C491	QETB1HM-225	2.2MF 50V ELECTRO	
	C492	EEZ0502-479	47000MF 5.5V ELECTRO	
	C493	QCS21HJ-391	390PF 50V CERAMIC	
	C494	QCS21HJ-561	560PF 50V CERAMIC	
	C495	QCBB1HK-561	560PF 50V CERAMIC	
	C501	QETB1EM-106	10MF 25V ELECTRO	
	C502	QETB1EM-106	10MF 25V ELECTRO	
	C503	QCS21HJ-470	47PF 50V CERAMIC	
	C504	QCS21HJ-470	47PF 50V CERAMIC	
	C507	QCS21HJ-101	100PF 50V CERAMIC	
	C508	QCS21HJ-101	100PF 50V CERAMIC	
	C509	QETB1CM-226	22MF 16V ELECTRO	
	C510	QETB1CM-226	22MF 16V ELECTRO	
	C511	QETB1HM-475	4.7MF 50V ELECTRO	
	C512	QETB1HM-475	4.7MF 50V ELECTRO	
	C513	QETB1CM-226	22MF 16V ELECTRO	
	C514	QETB1CM-226	22MF 16V ELECTRO	
	C515	QETB1HM-475	4.7MF 50V ELECTRO	
	C516	QETB1HM-475	4.7MF 50V ELECTRO	
	C521	QCY21HK-272	2700PF 50V CERAMIC	
	C522	QCY21HK-272	2700PF 50V CERAMIC	
	C523	QCS21HJ-471	470PF 50V CERAMIC	
	C524	QCS21HJ-471	470PF 50V CERAMIC	
	C525	QCY21HK-682	6800PF 50V CERAMIC	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C526	QCY21HK-682	6800PF 50V CERAMIC	
	C527	QCY21HK-122	1200PF 50V CERAMIC	
	C528	QCY21HK-122	1200PF 50V CERAMIC	
	C529	QFN81HK-183	0.018MF 50V MYLAR	
	C530	QFN81HK-183	0.018MF 50V MYLAR	
	C531	QCY21HK-272	2700PF 50V CERAMIC	
	C532	QCY21HK-272	2700PF 50V CERAMIC	
	C533	QFN81HK-473	0.047MF 50V MYLAR	
	C534	QFN81HK-473	0.047MF 50V MYLAR	
	C535	QCY21HK-682	6800PF 50V CERAMIC	
	C536	QCY21HK-682	6800PF 50V CERAMIC	
	C537	QFN81HK-104	0.1MF 50V MYLAR	
	C538	QFN81HK-104	0.1MF 50V MYLAR	
	C539	QFN81HK-183	0.018MF 50V MYLAR	
	C540	QFN81HK-183	0.018MF 50V MYLAR	
	C541	QFV81HJ-274	0.27MF 50V T.FILM	
	C542	QFV81HJ-274	0.27MF 50V T.FILM	
	C543	QFN81HK-473	0.047MF 50V MYLAR	
	C544	QFN81HK-473	0.047MF 50V MYLAR	
	C545	QFV81HJ-684	0.68MF 50V T.FILM	
	C546	QFV81HJ-684	0.68MF 50V T.FILM	
	C547	QFN81HK-124	0.12MF 50V MYLAR	
	C548	QFN81HK-124	0.12MF 50V MYLAR	
	C551	QETB1HM-475	4.7MF 50V ELECTRO	
	C552	QETB1HM-475	4.7MF 50V ELECTRO	
	C553	QETB1HM-475	4.7MF 50V ELECTRO	
	C554	QETB1HM-475	4.7MF 50V ELECTRO	
	C557	QCF21HP-223	0.022MF 50V CERAMIC	
	C558	QCF21HP-223	0.022MF 50V CERAMIC	
	C559	QCF21HP-223	0.022MF 50V CERAMIC	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R301	QRD167J-5R6	5.6 1/6W CARBON	
	R302	QRD167J-5R6	5.6 1/6W CARBON	
	R303	QRD167J-101	100 1/6W CARBON	
	R304	QRD167J-101	100 1/6W CARBON	
	R305	QRD167J-562	5.6K 1/6W CARBON	
	R306	QRD167J-562	5.6K 1/6W CARBON	
	R307	QRD167J-562	5.6K 1/6W CARBON	
	R308	QRD167J-562	5.6K 1/6W CARBON	
	R309	QRD167J-270	27 1/6W CARBON	
	R310	QRD167J-270	27 1/6W CARBON	
	R311	QRD167J-561	560 1/6W CARBON	
	R312	QRD167J-561	560 1/6W CARBON	
	R313	QRD167J-222	2.2K 1/6W CARBON	
	R314	QRD167J-222	2.2K 1/6W CARBON	
	R315	QRD167J-272	2.7K 1/6W CARBON	
	R316	QRD167J-272	2.7K 1/6W CARBON	
	R317	QRD167J-273	27K 1/6W CARBON	
	R318	QRD167J-273	27K 1/6W CARBON	
	R319	QRD167J-273	27K 1/6W CARBON	
	R320	QRD167J-273	27K 1/6W CARBON	
	R321	QRD167J-181	180 1/6W CARBON	
	R322	QRD167J-181	180 1/6W CARBON	
	R323	QRD167J-200	20 1/6W CARBON	
	R324	QRD167J-200	20 1/6W CARBON	
	R325	QRD167J-153	15K 1/6W CARBON	
	R326	QRD167J-153	15K 1/6W CARBON	
	R327	QRD167J-184	180K 1/6W CARBON	
	R328	QRD167J-184	180K 1/6W CARBON	
	R329	QRD167J-331	330 1/6W CARBON	
	R330	QRD167J-331	330 1/6W CARBON	
	R331	QRD167J-104	100K 1/6W CARBON	
	R332	QRD167J-104	100K 1/6W CARBON	
	R333	QRD167J-473	47K 1/6W CARBON	
	R334	QRD167J-473	47K 1/6W CARBON	
	R335	QRD167J-471	470 1/6W CARBON	
	R336	QRD167J-471	470 1/6W CARBON	
	R337	QRD167J-331	330 1/6W CARBON	C
	R338	QRD167J-331	330 1/6W CARBON	C
	R341	QRD167J-473	47K 1/6W CARBON	
	R342	QRD167J-473	47K 1/6W CARBON	
⚠	R343	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R343	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R343	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R343	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R344	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R344	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R344	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R344	QRZ0077-680	68 1/4W FUSIBLE	D
	R347	QRD167J-104	100K 1/6W CARBON	
	R351	QRD167J-221	220 1/6W CARBON	
	R352	QRD167J-221	220 1/6W CARBON	
	R353	QRD167J-221	220 1/6W CARBON	
	R354	QRD167J-221	220 1/6W CARBON	
	R355	QRD167J-221	220 1/6W CARBON	
	R356	QRD167J-221	220 1/6W CARBON	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R357	QRD167J-221	220 1/6W CARBON	
	R358	QRD167J-221	220 1/6W CARBON	
	R359	QRD167J-221	220 1/6W CARBON	
	R360	QRD167J-221	220 1/6W CARBON	
	R361	QRD167J-221	220 1/6W CARBON	A
	R361	QRD167J-221	220 1/6W CARBON	B
	R361	QRD167J-102	1K 1/6W CARBON	C
	R361	QRD167J-221	220 1/6W CARBON	D
	R362	QRD167J-221	220 1/6W CARBON	A
	R362	QRD167J-221	220 1/6W CARBON	B
	R362	QRD167J-102	1K 1/6W CARBON	C
	R362	QRD167J-221	220 1/6W CARBON	D
	R363	QRD167J-221	220 1/6W CARBON	
	R364	QRD167J-221	220 1/6W CARBON	
⚠	R365	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R365	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R365	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R365	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R366	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R366	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R366	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R366	QRZ0077-680	68 1/4W FUSIBLE	D
	R371	QRD167J-683	68K 1/6W CARBON	
	R372	QRD167J-683	68K 1/6W CARBON	
	R373	QRD167J-154	150K 1/6W CARBON	
	R374	QRD167J-154	150K 1/6W CARBON	
	R375	QRD167J-104	100K 1/6W CARBON	
	R376	QRD167J-104	100K 1/6W CARBON	
	R381	QRD167J-471	470 1/6W CARBON	
	R382	QRD167J-471	470 1/6W CARBON	
	R383	QRD167J-221	220 1/6W CARBON	
	R384	QRD167J-221	220 1/6W CARBON	
	R385	QRD167J-471	470 1/6W CARBON	
	R386	QRD167J-471	470 1/6W CARBON	
	R387	QRD167J-221	220 1/6W CARBON	
	R388	QRD167J-221	220 1/6W CARBON	
	R389	QRD167J-221	220 1/6W CARBON	
	R390	QRD167J-221	220 1/6W CARBON	
	R395	QRD167J-104	100K 1/6W CARBON	
	R396	QRD167J-104	100K 1/6W CARBON	
	R397	QRD167J-103	10K 1/6W CARBON	
	R398	QRD167J-103	10K 1/6W CARBON	
	R401	QRD167J-103	10K 1/6W CARBON	
	R402	QRD167J-471	470 1/6W CARBON	
	R403	QRD167J-473	47K 1/6W CARBON	
	R404	QRD167J-223	22K 1/6W CARBON	
	R405	QRD167J-103	10K 1/6W CARBON	
	R481	QRD167J-103	10K 1/6W CARBON	
	R482	QRD167J-471	470 1/6W CARBON	
	R483	QRD167J-473	47K 1/6W CARBON	
	R484	QRD167J-223	22K 1/6W CARBON	
	R485	QRD167J-103	10K 1/6W CARBON	
	R490	QRD167J-331	330 1/6W CARBON	
	R491	QRD167J-104	100K 1/6W CARBON	
	R492	QRD167J-104	100K 1/6W CARBON	
	R493	QRD167J-104	100K 1/6W CARBON	
	R494	QRD167J-104	100K 1/6W CARBON	
	R495	QRD167J-104	100K 1/6W CARBON	
	R496	QRD167J-104	100K 1/6W CARBON	
	R497	QRD167J-104	100K 1/6W CARBON	
	R498	QRD167J-103	10K 1/6W CARBON	
	R501	QRD167J-153	15K 1/6W CARBON	
	R502	QRD167J-153	15K 1/6W CARBON	
	R503	QRD167J-104	100K 1/6W CARBON	
	R504	QRD167J-104	100K 1/6W CARBON	
	R505	QRD167J-823	82K 1/6W CARBON	
	R506	QRD167J-823	82K 1/6W CARBON	
	R507	QRD167J-101	100 1/6W CARBON	
	R508	QRD167J-101	100 1/6W CARBON	
	R509	QRD167J-103	10K 1/6W CARBON	
	R510	QRD167J-103	10K 1/6W CARBON	
	R511	QRD167J-103	10K 1/6W CARBON	
	R512	QRD167J-103	10K 1/6W CARBON	
	R513	QRD167J-224	220K 1/6W CARBON	
	R514	QRD167J-224	220K 1/6W CARBON	
	R515	QRD167J-224	220K 1/6W CARBON	
	R516	QRD167J-224	220K 1/6W CARBON	
	R517	QRD167J-223	22K 1/6W CARBON	
	R518	QRD167J-223	22K 1/6W CARBON	
	R519	QRD167J-333	33K 1/6W CARBON	
	R520	QRD167J-333	33K 1/6W CARBON	
	R521	QRD167J-104	100K 1/6W CARBON	
	R522	QRD167J-104	100K 1/6W CARBON	
⚠	R531	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R531	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R531	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R531	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R532	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R532	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R532	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R532	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R535	QRD14CJ-221S	220 1/4W UNF.CARBON	
⚠	R536	QRD14CJ-271S	270 1/4W UNF.CARBON	
	R537	QRD167J-681	680 1/6W CARBON	
	R538	QRD167J-272	2.7K 1/6W CARBON	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	RA501	QRB079J-474	470K 1/10W R.NETWORK	
	RA502	QRB079J-474	470K 1/10W R.NETWORK	

⚠ : SAFETY PARTS

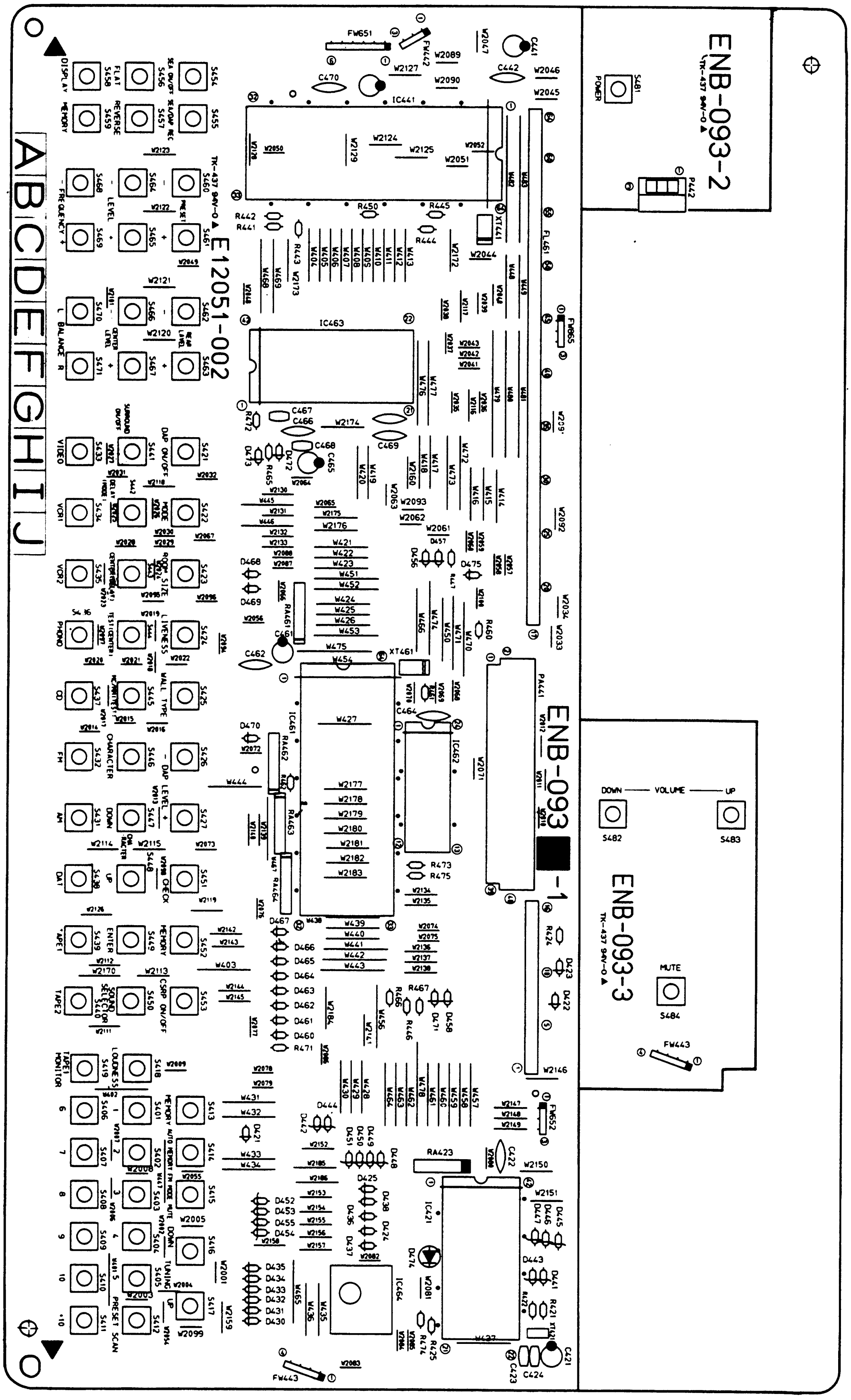
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12053-002	CIRCUIT BOARD	
	J301	EMN00TV-405A	4P PIN JACK	
	J302	EMN00TV-602A	6P PIN JACK	
	J303	EMN00TV-604A	6P PIN JACK	
	J304	EMN00TV-602A	6P PIN JACK	
	J305	EMN00TV-405A	4P PIN JACK	
	L337	EQL4004-270	INDUCTOR	C
	L338	EQL4004-270	INDUCTOR	C
	L339	EQL4004-220	INDUCTOR	C
	L340	EQL4004-220	INDUCTOR	C
	FW101	EWR38B-16KST	FLAT WIRE	
	FW103	EWR36B-25KST	FLAT WIRE	
	FW105	EWR33B-25KST	FLAT WIRE	D
	FW560	EWR23C-25LN	FLAT WIRE	
	FW590	EWR34B-20LST	FLAT WIRE	
	FW591	EWR36B-40LST	FLAT WIRE	
	FW855	EWR39B-35LST	FLAT WIRE	
	FW863	EWR34B-25LST	FLAT WIRE	
	PA301	EMV5125-014	PLUG ASSY	
	PB301	EMV7125-014R	CONNECTOR	
	PB441	EMV7123-040	CONNECTOR	
	PB581	EMV7125-013R	CONNECTOR	
	PT312	EMV7122-003	CONNECTOR	
	PT313	EMV7122-005	CONNECTOR	
	PT314	EMV7122-005	CONNECTOR	
	PT315	EMV7122-003	CONNECTOR	
	PT316	EMV7122-003	CONNECTOR	

⚠ : SAFETY PARTS

■ENB-093☐ Display / Control PC Board Ass'y

Note : ENB-093☐ varies according to the areas employed. See note (1) when placing an order.


ENB-093-2
TK-437 94V-0▲
POWER
S481
PL442
FW651
FW442
IC441
C470
C441
C442
XT441
FL461
FW665
IC463
C467
C466
C468
C465
C469
E12051-002
TK-437 94V-0▲
A
B
C
D
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G
H
I
J
DISPLAY
MEMORY
FLAT
REVERSE
FREQUENCY
LEVEL
PRESET
BALANCE
VIDEO
VCR1
VCR2
PHONO
CD
FM
AM
DAT
TAPE1
TAPE2
TAPE1 MONITOR
LOUDNESS
PRESET SCAN
TUNING
CHARACTER
ENTER
MEMORY
CHECK
LIVENESS
WALL TYPE
DAP ON/OFF
DAP LEVEL
MODE
SOUND SELECTOR
CSRP ON/OFF
IC461
IC462
PA461
RA461
RA462
RA463
RA464
XT461
C461
C462
C464
ENB-093■-1
DOWN
VOLUME
UP
S482
S483
ENB-093-3
TK-437 94V-0▲
MUTE
S484
FW443
RA423
IC421
IC464
FW652
C422
C421
C423
C424
FW443

Note (1)

PC Board Ass'y	Designated Areas
ENB-093 A	the U.S.A. ,Canada
ENB-093 B	Other Countries
ENB-093 C	Australia , Europe , the U.K.
ENB-093 D	West Germany

Transistors

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC421	LC6514B-4131	I.C. SANYO	
	IC441	MN178122JSY1	I.C. MATSUSHITA	
	IC461	MN178122JSZ2	I.C. MATSUSHITA	
	IC462	LC3517BS-15	I.C. SANYO	
	IC463	MSC7112-01SS	I.C. NIHON DENSO	
	IC464	A1QH3021H0	I.C. SHARP	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D421	1SS133	SILICON ROHM	
	D422	1SS133	SILICON ROHM	
	D423	1SS133	SILICON ROHM	
	D424	1SS133	SILICON ROHM	
	D425	1SS133	SILICON ROHM	
	D430	1SS133	SILICON ROHM	
	D431	1SS133	SILICON ROHM	
	D432	1SS133	SILICON ROHM	
	D433	1SS133	SILICON ROHM	
	D434	1SS133	SILICON ROHM	
	D435	1SS133	SILICON ROHM	
	D436	1SS133	SILICON ROHM	B
	D437	1SS133	SILICON ROHM	A
	D438	1SS133	SILICON ROHM	C
	D438	1SS133	SILICON ROHM	D
	D441	MTZ5.6JC	ZENER ROHM	
	D442	MTZ5.6JC	ZENER ROHM	
	D443	MTZ5.6JC	ZENER ROHM	
	D444	MTZ5.6JC	ZENER ROHM	
	D445	MTZ5.6JC	ZENER ROHM	
	D446	MTZ5.6JC	ZENER ROHM	
	D447	MTZ5.6JC	ZENER ROHM	
	D448	MTZ5.6JC	ZENER ROHM	
	D449	MTZ5.6JC	ZENER ROHM	
	D450	MTZ5.6JC	ZENER ROHM	
	D451	MTZ5.6JC	ZENER ROHM	
	D452	MTZ5.6JC	ZENER ROHM	
	D453	MTZ5.6JC	ZENER ROHM	
	D454	MTZ5.6JC	ZENER ROHM	
	D455	MTZ5.6JC	ZENER ROHM	
	D456	1SS133	SILICON ROHM	
	D457	1SS133	SILICON ROHM	
	D458	1SS133	SILICON ROHM	
	D460	1SS133	SILICON ROHM	
	D461	1SS133	SILICON ROHM	
	D462	1SS133	SILICON ROHM	
	D463	1SS133	SILICON ROHM	
	D464	1SS133	SILICON ROHM	
	D465	1SS133	SILICON ROHM	
	D466	1SS133	SILICON ROHM	
	D467	1SS133	SILICON ROHM	
	D468	1SS133	SILICON ROHM	
	D469	1SS133	SILICON ROHM	
	D470	1SS133	SILICON ROHM	
	D471	1SS133	SILICON ROHM	
	D472	1SS133	SILICON ROHM	
	D473	1SS133	SILICON ROHM	
	D474	SLH-34VC50F	L.E.D. ROHM	
	D475	1SS133	SILICON ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C421	EEZ0603-108	1000MF ELECTRO	
	C422	QCZ0202-155	1.5MF 25V CERAMIC	
	C423	QCBB1HK-101	100PF 50V CERAMIC	
	C424	QCBB1HK-101	100PF 50V CERAMIC	
	C441	QETB0JM-477	470MF 6.3V ELECTRO	
	C442	QCZ0202-155	1.5MF 25V CERAMIC	
	C461	QETB0JM-477	470MF 6.3V ELECTRO	
	C462	QCZ0205-155	1.5MF 25V CERAMIC	
	C464	QCZ0202-155	1.5MF 25V CERAMIC	
	C465	QETB0JM-227	220MF 6.3V ELECTRO	
	C466	QCZ0202-155	1.5MF 25V CERAMIC	
	C467	QCBB1HK-101	100PF 50V CERAMIC	
	C468	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C469	QCZ0202-155	1.5MF 25V CERAMIC	
	C470	QCZ0202-155	1.5MF 25V CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R421	QRD167J-105	1M 1/6W CARBON	
	R422	QRD167J-152	1.5K 1/6W CARBON	
	R424	QRD167J-3R9	3.9 1/6W CARBON	
	R425	QRD167J-272	2.7K 1/6W CARBON	
	R441	QRD167J-473	47K 1/6W CARBON	
	R442	QRD167J-473	47K 1/6W CARBON	
	R443	QRD167J-473	47K 1/6W CARBON	
	R444	QRD167J-473	47K 1/6W CARBON	
	R445	QRD167J-473	47K 1/6W CARBON	
	R446	QRD167J-103	10K 1/6W CARBON	
	R447	QRD167J-3R9	3.9 1/6W CARBON	
	R450	QRD167J-473	47K 1/6W CARBON	
	R460	QRD167J-103	10K 1/6W CARBON	
	R461	QRD167J-103	10K 1/6W CARBON	
	R462	QRD167J-102	1K 1/6W CARBON	
	R465	QRD167J-104	100K 1/6W CARBON	
	R466	QRD167J-103	10K 1/6W CARBON	
	R467	QRD167J-103	10K 1/6W CARBON	
	R471	QRD167J-221	220 1/6W CARBON	
	R472	QRD167J-273	27K 1/6W CARBON	
	R473	QRD167J-103	10K 1/6W CARBON	
	R474	QRD167J-271	270 1/6W CARBON	
	R475	QRD167J-103	10K 1/6W CARBON	
	RA423	QRB045J-473	47K 1/8W R.NETWORK	
	RA461	QRB079J-102	1K 1/10W R.NETWORK	
	RA462	QRB079J-102	1K 1/10W R.NETWORK	
	RA463	QRB079J-103	10K 1/10W R.NETWORK	
	RA464	QRB079J-103	10K 1/10W R.NETWORK	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12051-002	CIRCUIT BOARD	
		E3400-419	FELT SPACER	
		E3400-420	FELT SPACER	
	P442	EMV7112-003	CONNECTOR	
	S401	ESP0001-018	TACT SWITCH	
	S402	ESP0001-018	TACT SWITCH	
	S403	ESP0001-018	TACT SWITCH	
	S404	ESP0001-018	TACT SWITCH	
	S405	ESP0001-018	TACT SWITCH	
	S406	ESP0001-018	TACT SWITCH	
	S407	ESP0001-018	TACT SWITCH	
	S408	ESP0001-018	TACT SWITCH	
	S409	ESP0001-018	TACT SWITCH	
	S410	ESP0001-018	TACT SWITCH	
	S411	ESP0001-018	TACT SWITCH	
	S412	ESP0001-018	TACT SWITCH	
	S413	ESP0001-018	TACT SWITCH	
	S414	ESP0001-018	TACT SWITCH	
	S415	ESP0001-018	TACT SWITCH	
	S416	ESP0001-018	TACT SWITCH	
	S417	ESP0001-018	TACT SWITCH	
	S418	ESP0001-018	TACT SWITCH	
	S419	ESP0001-018	TACT SWITCH	
	S421	ESP0001-018	TACT SWITCH	
	S422	ESP0001-018	TACT SWITCH	
	S423	ESP0001-018	TACT SWITCH	
	S424	ESP0001-018	TACT SWITCH	
	S425	ESP0001-018	TACT SWITCH	
	S426	ESP0001-018	TACT SWITCH	
	S427	ESP0001-018	TACT SWITCH	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S431	ESP0001-018	TACT SWITCH	
	S432	ESP0001-018	TACT SWITCH	
	S433	ESP0001-018	TACT SWITCH	
	S434	ESP0001-018	TACT SWITCH	
	S435	ESP0001-018	TACT SWITCH	
	S436	ESP0001-018	TACT SWITCH	
	S437	ESP0001-018	TACT SWITCH	
	S438	ESP0001-018	TACT SWITCH	
	S439	ESP0001-018	TACT SWITCH	
	S440	ESP0001-018	TACT SWITCH	
	S441	ESP0001-018	TACT SWITCH	
	S442	ESP0001-018	TACT SWITCH	
	S443	ESP0001-018	TACT SWITCH	
	S444	ESP0001-018	TACT SWITCH	
	S445	ESP0001-018	TACT SWITCH	
	S446	ESP0001-018	TACT SWITCH	
	S447	ESP0001-018	TACT SWITCH	
	S448	ESP0001-018	TACT SWITCH	
	S449	ESP0001-018	TACT SWITCH	
	S450	ESP0001-018	TACT SWITCH	
	S451	ESP0001-018	TACT SWITCH	
	S452	ESP0001-018	TACT SWITCH	
	S453	ESP0001-018	TACT SWITCH	
	S454	ESP0001-018	TACT SWITCH	
	S455	ESP0001-018	TACT SWITCH	
	S456	ESP0001-018	TACT SWITCH	
	S457	ESP0001-018	TACT SWITCH	
	S458	ESP0001-018	TACT SWITCH	
	S459	ESP0001-018	TACT SWITCH	
	S460	ESP0001-018	TACT SWITCH	

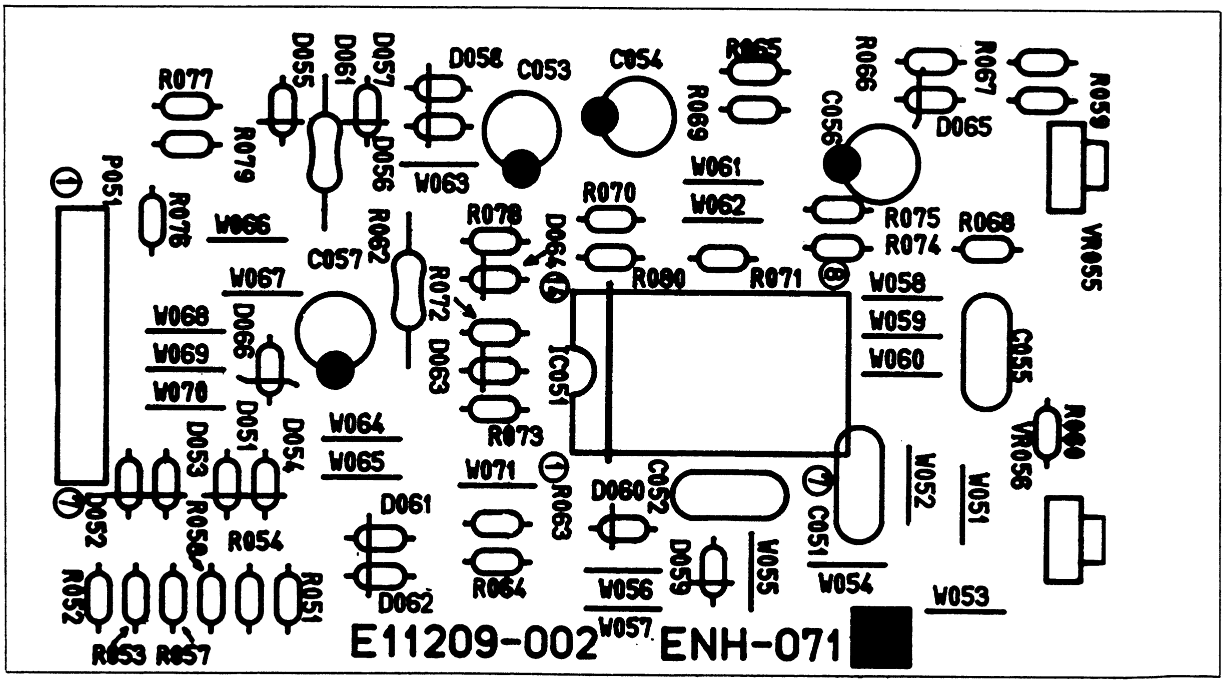
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S461	ESP0001-018	TACT SWITCH	
	S462	ESP0001-018	TACT SWITCH	
	S463	ESP0001-018	TACT SWITCH	
	S464	ESP0001-018	TACT SWITCH	
	S465	ESP0001-018	TACT SWITCH	
	S466	ESP0001-018	TACT SWITCH	
	S467	ESP0001-018	TACT SWITCH	
	S468	ESP0001-018	TACT SWITCH	
	S469	ESP0001-018	TACT SWITCH	
	S470	ESP0001-018	TACT SWITCH	
	S471	ESP0001-018	TACT SWITCH	
	S481	ESP0001-018	TACT SWITCH	
	S482	ESP0001-018	TACT SWITCH	
	S483	ESP0001-018	TACT SWITCH	
	S484	ESP0001-018	TACT SWITCH	
	FL461	ELU0001-082	FL TUBE	
	FW442	EWR33B-08KST	FLAT WIRE	
	FW443	EWR34B-16SST	FLAT WIRE	
	FW651	EWR36B-55LST	FLAT WIRE	
	FW652	EWR33B-25LST	FLAT WIRE	
	FW865	EWR33B-70LST	FLAT WIRE	
	PA441	EMV7123-040R	CONNECTOR	
	XT421	ECX0001-000KS	RESONATOR	
	XT441	ECX0072-000EM	RESONATOR	
	XT461	ECX0072-000EM	RESONATOR	

⚠ : SAFETY PARTS

■ENH-071 ☐ Impedance Unit PC Board Ass'y

Note : ENH-071 ☐ varies according to the areas employed. See note (1) when placing an order.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E11209-002
ENH-071

Note (1)

PC Board Ass'y	Designated Areas
ENB-071 A	Australia, Europe, the U.K. West Germany, Other Countries
ENB-071 E	the U.S.A., Canada

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC051	AN6912	I.C. MATSUSHITA	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D055	1SS147	SILICON ROHM	
	D056	1SS147	SILICON ROHM	
	D057	1SS147	SILICON ROHM	
	D058	1SS147	SILICON ROHM	
	D063	1SS133	SILICON ROHM	
	D064	1SS133	SILICON ROHM	
	D065	MTZ11C	ZENER ROHM	
	D066	MTZ15JC	ZENER ROHM	

⚠ SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C053	QETB2AM-105	1MF 100V ELECTRO	
	C054	QETB2AM-225	2.2MF 100V ELECTRO	
	C055	QFN81HJ-103	0.01MF 50V MYLAR	
	C056	QETB1EM-476	47MF 25V ELECTRO	
	C057	QETB1HM-225	2.2MF 50V ELECTRO	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R061	QRD145J-101S	100 1/4W UNF.CARBON	
⚠	R062	QRD145J-101S	100 1/4W UNF.CARBON	
	R065	QRD167J-223	22K 1/6W CARBON	
	R066	QRD167J-563	56K 1/6W CARBON	
	R067	QRD167J-473	47K 1/6W CARBON	
	R068	QRD167J-153	15K 1/6W CARBON	
	R069	QRD167J-823	82K 1/6W CARBON	
	R070	QRD167J-271	270 1/6W CARBON	
	R071	QRD167J-914	910K 1/6W CARBON	
	R072	QRD167J-472	4.7K 1/6W CARBON	
	R073	QRD167J-472	4.7K 1/6W CARBON	
	R074	QRD167J-154	150K 1/6W CARBON	
	R075	QRD167J-472	4.7K 1/6W CARBON	
	R076	QRD167J-103	10K 1/6W CARBON	
	R077	QRD167J-224	220K 1/6W CARBON	
	R078	QRD167J-474	470K 1/6W CARBON	
	R079	QRD167J-474	470K 1/6W CARBON	
	R080	QRD167J-914	910K 1/6W CARBON	

⚠ SAFETY PARTS

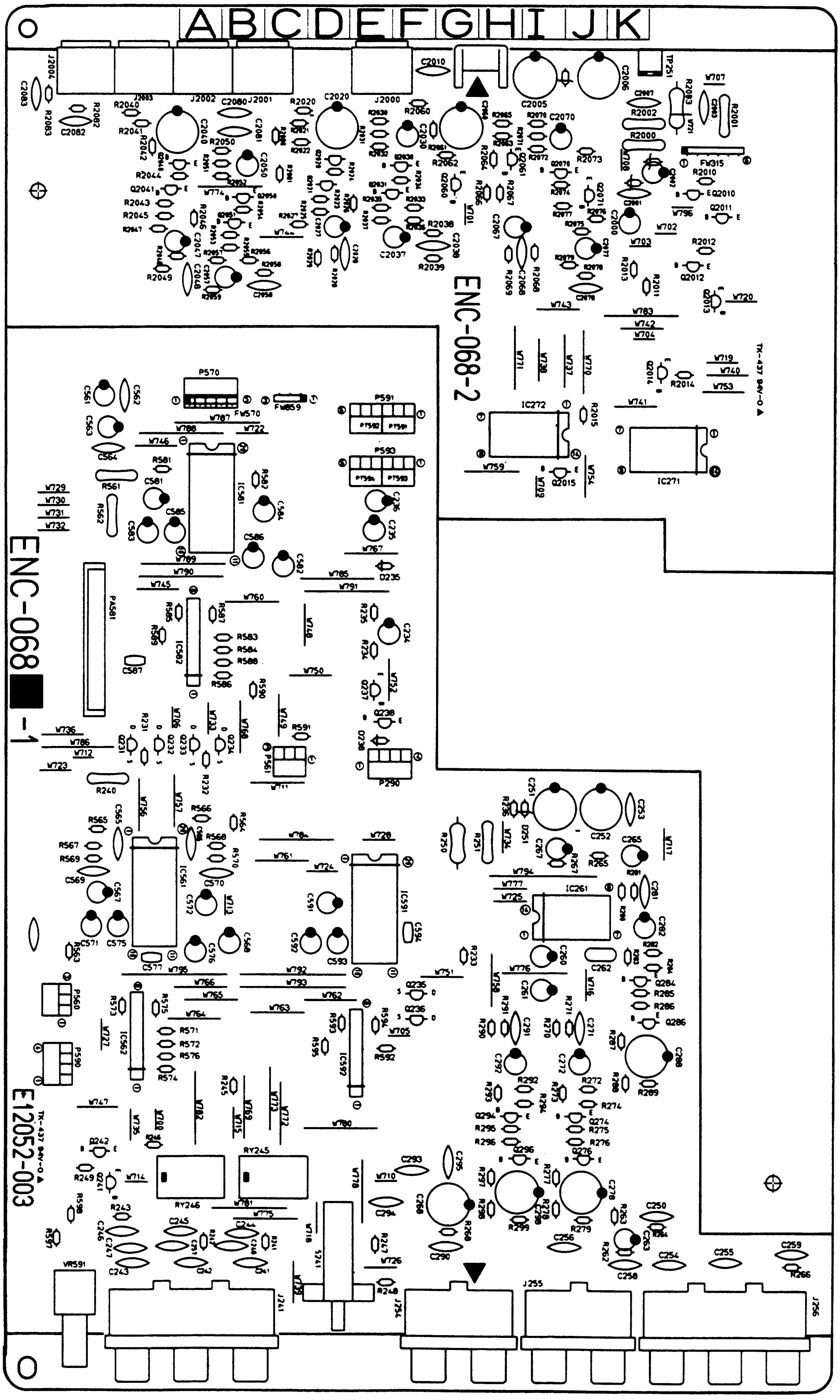
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11209-002	CIRCUIT BOARD	
	P051	EMV5101-007B	PLUG ASSY	

⚠ SAFETY PARTS

■ENC-068☐ Video Signal / Volume Control PC Board Ass'y

Note : ENC-068☐ varies according to the areas employed. See note (1) when placing an order.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PA581
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RY246
RY245
VR591
J2004
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J2001
J2000
J241
J254
J255
J256

Note (1)

PC Board Ass'y	Designated Areas
ENC-068 A	the U.S.A., Canada
ENC-068 B	Other Countries
ENC-068 C	Australia, Europe, the U.K.
ENC-068 D	West Germany

Transistors

TRANSISTOR

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q231	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q232	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q233	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q234	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q235	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q236	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q237	DTA114YS	SILICON ROHM	
	Q238	DTC144ES	SILICON ROHM	
	Q241	2SC1740S(R,S)	SILICON ROHM	
	Q242	DTC144ES	SILICON ROHM	
	Q274	2SC458(C,D)	SILICON HITACHI	
	Q276	2SA933S(R,S)	SILICON ROHM	
	Q284	2SC458(C,D)	SILICON HITACHI	
	Q286	2SA933S(R,S)	SILICON ROHM	
	Q294	2SC458(C,D)	SILICON HITACHI	
	Q296	2SA933S(R,S)	SILICON ROHM	
	Q2010	DTC144ES	SILICON ROHM	
	Q2011	2SA933S(R,S)	SILICON ROHM	
	Q2012	DTC144ES	SILICON ROHM	
	Q2013	2SA933S(R,S)	SILICON ROHM	
	Q2014	DTC144ES	SILICON ROHM	
	Q2015	DTC144ES	SILICON ROHM	
	Q2020	2SA933S(R,S)	SILICON ROHM	
	Q2021	2SC458(C,D)	SILICON HITACHI	
	Q2030	2SA933S(R,S)	SILICON ROHM	
	Q2031	2SC458(C,D)	SILICON HITACHI	
	Q2040	2SA933S(R,S)	SILICON ROHM	
	Q2041	2SC458(C,D)	SILICON HITACHI	
	Q2050	2SA933S(R,S)	SILICON ROHM	
	Q2051	2SC458(C,D)	SILICON HITACHI	
	Q2060	2SA933S(R,S)	SILICON ROHM	
	Q2061	2SC458(C,D)	SILICON HITACHI	
	Q2070	2SA933S(R,S)	SILICON ROHM	
	Q2071	2SC458(C,D)	SILICON HITACHI	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC261	LA7951	I.C. SANYO	
	IC271	LC4966	I.C. SANYO	
	IC272	LC4966	I.C. SANYO	
	IC561	TC9177P	I.C. TOSHIBA	
	IC562	VC4580LD	I.C. DAINICHI	
	IC581	TC9177P	I.C. TOSHIBA	
	IC582	VC4580LD	I.C. DAINICHI	
	IC591	TC9177P	I.C. TOSHIBA	
	IC592	VC4580LD	I.C. DAINICHI	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D235	1SS133	SILICON ROHM	
	D238	1SS133	SILICON ROHM	
	D251	RD13JSB3	ZENER NEC	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C234	QETB1HM-475	4.7MF 50V ELECTRO	
	C235	QETB1EM-227	220MF 25V ELECTRO	
	C237	QETB1EM-106	10MF 25V ELECTRO	
	C241	QCS21HJ-331	330PF 50V CERAMIC	D
	C242	QCS21HJ-331	330PF 50V CERAMIC	D

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C243	QCS21HJ-331	330PF 50V CERAMIC	D
	C247	QCF21HP-223	0.022MF 50V CERAMIC	
	C251	QETB1CM-477	470MF 16V ELECTRO	
	C252	QETB1CM-477	470MF 16V ELECTRO	
	C253	QCF21HP-223	0.022MF 50V CERAMIC	
	C255	QFN81HK-104	0.1MF 50V MYLAR	
	C256	QFN81HK-104	0.1MF 50V MYLAR	
	C257	QCF21HP-223	0.022MF 50V CERAMIC	
	C260	QETB1CM-476	47MF 16V ELECTRO	
	C261	QETB1HM-475	4.7MF 50V ELECTRO	
	C262	QFN81HJ-104	0.1MF 50V MYLAR	
	C263	QETB1HM-475	4.7MF 50V ELECTRO	
	C265	QETB1HM-475	4.7MF 50V ELECTRO	
	C267	QETB1HM-475	4.7MF 50V ELECTRO	
	C268	QETB0JM-108	1000MF 6.3V ELECTRO	
	C272	QETB1CM-107	100MF 16V ELECTRO	
	C278	QETB0JM-108	1000MF 6.3V ELECTRO	
	C282	QETB1AM-107	100MF 10V ELECTRO	
	C288	QETB0JM-108	1000MF 6.3V ELECTRO	
	C290	QFN81HK-104	0.1MF 50V MYLAR	
	C292	QETB1AM-107	100MF 10V ELECTRO	
	C298	QETB0JM-108	1000MF 6.3V ELECTRO	
	C561	QETB1EM-476	47MF 25V ELECTRO	
	C562	QCF21HP-223	0.022MF 50V CERAMIC	
	C563	QETB1EM-476	47MF 25V ELECTRO	
	C564	QCF21HP-223	0.022MF 50V CERAMIC	
	C565	QCS21HJ-181	180PF 50V CERAMIC	
	C566	QCS21HJ-181	180PF 50V CERAMIC	
	C567	QETB1HM-475	4.7MF 50V ELECTRO	
	C568	QETB1HM-475	4.7MF 50V ELECTRO	
	C569	QFN81HK-333	0.033MF 50V MYLAR	
	C570	QFN81HK-333	0.033MF 50V MYLAR	
	C571	QETB1HM-105	1MF 50V ELECTRO	
	C572	QETB1HM-105	1MF 50V ELECTRO	
	C575	QETB1EM-106	10MF 25V ELECTRO	
	C576	QETB1EM-106	10MF 25V ELECTRO	
	C577	QCBB1HK-561	560PF 50V CERAMIC	
	C581	QETB1HM-475	4.7MF 50V ELECTRO	
	C582	QETB1HM-475	4.7MF 50V ELECTRO	
	C583	QETB1HM-105	1MF 50V ELECTRO	
	C584	QETB1HM-105	1MF 50V ELECTRO	
	C585	QETB1EM-106	10MF 25V ELECTRO	
	C586	QETB1EM-106	10MF 25V ELECTRO	
	C587	QCBB1HK-561	560PF 50V CERAMIC	
	C591	QETB1HM-475	4.7MF 50V ELECTRO	
	C592	QETB1HM-105	1MF 50V ELECTRO	
	C593	QETB1EM-106	10MF 25V ELECTRO	
	C594	QCBB1HK-561	560PF 50V CERAMIC	
	C2000	QETB1CM-476	47MF 16V ELECTRO	
	C2001	QCF21HP-223	0.022MF 50V CERAMIC	
	C2002	QETB1CM-476	47MF 16V ELECTRO	
	C2003	QCF21HP-223	0.022MF 50V CERAMIC	
	C2004	QETB1CM-227	220MF 16V ELECTRO	
	C2005	QETB1CM-227	220MF 16V ELECTRO	
	C2006	QETB1CM-477	470MF 16V ELECTRO	
	C2007	QCF21HP-223	0.022MF 50V CERAMIC	
	C2020	QETB0JM-108	1000MF 6.3V ELECTRO	
	C2027	QETB1AM-107	100MF 10V ELECTRO	
	C2030	QETB1HM-105	1MF 50V ELECTRO	
	C2037	QETB1AM-107	100MF 10V ELECTRO	
	C2040	QETB0JM-108	1000MF 6.3V ELECTRO	
	C2047	QETB1AM-107	100MF 10V ELECTRO	
	C2050	QETB1HM-105	1MF 50V ELECTRO	
	C2057	QETB1AM-107	100MF 10V ELECTRO	
	C2060	QETB0JM-108	1000MF 6.3V ELECTRO	
	C2067	QETB1AM-107	100MF 10V ELECTRO	
	C2070	QETB1HM-105	1MF 50V ELECTRO	
	C2077	QETB1AM-107	100MF 10V ELECTRO	
	C2080	QCS21HJ-101	100PF 50V CERAMIC	
	C2081	QCS21HJ-101	100PF 50V CERAMIC	
	C2082	QCS21HJ-101	100PF 50V CERAMIC	
	C2083	QCS21HJ-101	100PF 50V CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R231	QRD167J-103	10K 1/6W CARBON	
	R232	QRD167J-103	10K 1/6W CARBON	
	R233	QRD167J-103	10K 1/6W CARBON	
	R234	QRD167J-104	100K 1/6W CARBON	
	R235	QRD167J-333	33K 1/6W CARBON	
	R236	QRD167J-182	1.8K 1/6W CARBON	
⚠	R240	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R240	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R240	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R240	QRZ0077-680	68 1/4W FUSIBLE	D

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R241	QRD167J-471	470 1/6W CARBON	
	R242	QRD167J-471	470 1/6W CARBON	
	R243	QRD167J-471	470 1/6W CARBON	
	R245	QRD167J-100	10 1/6W CARBON	
	R246	QRD167J-100	10 1/6W CARBON	
	R247	QRD167J-101	100 1/6W CARBON	
	R248	QRD167J-101	100 1/6W CARBON	
	R249	QRD167J-562	5.6K 1/6W CARBON	
⚠	R250	QRG012J-270A	27 1W O.M.FILM	
⚠	R251	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R251	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R251	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R251	QRZ0077-100	10 1/4W FUSIBLE	D
	R262	QRD167J-750	75 1/6W CARBON	
	R263	QRD167J-331	330 1/6W CARBON	
	R264	QRD167J-750	75 1/6W CARBON	
	R265	QRD167J-331	330 1/6W CARBON	
	R266	QRD167J-750	75 1/6W CARBON	
	R267	QRD167J-331	330 1/6W CARBON	
	R268	QRD167J-750	75 1/6W CARBON	
	R270	QRD167J-511	510 1/6W CARBON	
	R271	QRD167J-331	330 1/6W CARBON	
	R272	QRD167J-562	5.6K 1/6W CARBON	
	R273	QRD167J-682	6.8K 1/6W CARBON	
	R274	QRD167J-331	330 1/6W CARBON	
	R275	QRD167J-561	560 1/6W CARBON	
	R276	QRD167J-560	56 1/6W CARBON	
	R277	QRD167J-511	510 1/6W CARBON	
	R278	QRD167J-562	5.6K 1/6W CARBON	
	R279	QRD167J-750	75 1/6W CARBON	
	R280	QRD167J-511	510 1/6W CARBON	
	R281	QRD167J-331	330 1/6W CARBON	
	R282	QRD167J-562	5.6K 1/6W CARBON	
	R283	QRD167J-682	6.8K 1/6W CARBON	
	R284	QRD167J-331	330 1/6W CARBON	
	R285	QRD167J-561	560 1/6W CARBON	
	R286	QRD167J-560	56 1/6W CARBON	
	R287	QRD167J-511	510 1/6W CARBON	
	R288	QRD167J-562	5.6K 1/6W CARBON	
	R289	QRD167J-750	75 1/6W CARBON	
	R290	QRD167J-511	510 1/6W CARBON	
	R291	QRD167J-331	330 1/6W CARBON	
	R292	QRD167J-562	5.6K 1/6W CARBON	
	R293	QRD167J-682	6.8K 1/6W CARBON	
	R294	QRD167J-331	330 1/6W CARBON	
	R295	QRD167J-561	560 1/6W CARBON	
	R296	QRD167J-560	56 1/6W CARBON	
	R297	QRD167J-511	510 1/6W CARBON	
	R298	QRD167J-562	5.6K 1/6W CARBON	
	R299	QRD167J-750	75 1/6W CARBON	
⚠	R561	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R561	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R561	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R561	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R562	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R562	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R562	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R562	QRZ0077-680	68 1/4W FUSIBLE	D
	R563	QRD167J-104	100K 1/6W CARBON	
	R564	QRD167J-104	100K 1/6W CARBON	
	R565	QRD167J-563	56K 1/6W CARBON	
	R566	QRD167J-563	56K 1/6W CARBON	
	R567	QRD167J-105	1M 1/6W CARBON	
	R568	QRD167J-105	1M 1/6W CARBON	
	R569	QRD167J-563	56K 1/6W CARBON	
	R570	QRD167J-563	56K 1/6W CARBON	
	R571	QRD167J-105	1M 1/6W CARBON	
	R572	QRD167J-105	1M 1/6W CARBON	
	R573	QRD167J-103	10K 1/6W CARBON	
	R574	QRD167J-103	10K 1/6W CARBON	
	R575	QRD167J-103	10K 1/6W CARBON	
	R576	QRD167J-103	10K 1/6W CARBON	
	R581	QRD167J-104	100K 1/6W CARBON	
	R582	QRD167J-104	100K 1/6W CARBON	
	R583	QRD167J-105	1M 1/6W CARBON	
	R584	QRD167J-105	1M 1/6W CARBON	
	R585	QRD167J-103	10K 1/6W CARBON	
	R586	QRD167J-103	10K 1/6W CARBON	
	R587	QRD167J-103	10K 1/6W CARBON	
	R588	QRD167J-103	10K 1/6W CARBON	
	R589	QRD167J-332	3.3K 1/6W CARBON	
	R590	QRD167J-332	3.3K 1/6W CARBON	
	R591	QRD167J-104	100K 1/6W CARBON	
	R592	QRD167J-105	1M 1/6W CARBON	
	R593	QRD167J-103	10K 1/6W CARBON	
	R594	QRD167J-103	10K 1/6W CARBON	
	R595	QRD167J-332	3.3K 1/6W CARBON	
	R597	QRD167J-393	39K 1/6W CARBON	
	R598	QRD167J-393	39K 1/6W CARBON	
⚠	R2000	QRD14CJ-680S	68 1/4W UNF.CARBON	A

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R2000	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R2000	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R2000	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R2001	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R2001	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R2001	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R2001	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R2002	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R2002	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R2002	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R2002	QRZ0077-100	10 1/4W FUSIBLE	D
⚠	R2003	QRG012J-270A	27 1W O.M.FILM	
	R2010	QRD167J-104	100K 1/6W CARBON	
	R2011	QRD167J-563	56K 1/6W CARBON	
	R2012	QRD167J-104	100K 1/6W CARBON	
	R2013	QRD167J-563	56K 1/6W CARBON	
	R2014	QRD167J-563	56K 1/6W CARBON	
	R2015	QRD167J-563	56K 1/6W CARBON	
	R2020	QRD167J-750	75 1/6W CARBON	
	R2021	QRD167J-562	5.6K 1/6W CARBON	
	R2022	QRD167J-392	3.9K 1/6W CARBON	
	R2023	QRD167J-271	270 1/6W CARBON	
	R2024	QRD167J-331	330 1/6W CARBON	
	R2025	QRD167J-201	200 1/6W CARBON	
	R2026	QRD167J-103	10K 1/6W CARBON	
	R2027	QRD167J-682	6.8K 1/6W CARBON	
	R2028	QRD167J-331	330 1/6W CARBON	
	R2029	QRD167J-103	10K 1/6W CARBON	
	R2030	QRD167J-750	75 1/6W CARBON	
	R2031	QRD167J-562	5.6K 1/6W CARBON	
	R2032	QRD167J-152	1.5K 1/6W CARBON	
	R2033	QRD167J-821	820 1/6W CARBON	
	R2034	QRD167J-331	330 1/6W CARBON	
	R2035	QRD167J-561	560 1/6W CARBON	
	R2036	QRD167J-103	10K 1/6W CARBON	
	R2037	QRD167J-682	6.8K 1/6W CARBON	
	R2038	QRD167J-331	330 1/6W CARBON	
	R2039	QRD167J-103	10K 1/6W CARBON	
	R2040	QRD167J-750	75 1/6W CARBON	
	R2041	QRD167J-562	5.6K 1/6W CARBON	
	R2042	QRD167J-392	3.9K 1/6W CARBON	
	R2043	QRD167J-271	270 1/6W CARBON	
	R2044	QRD167J-331	330 1/6W CARBON	
	R2045	QRD167J-201	200 1/6W CARBON	
	R2046	QRD167J-103	10K 1/6W CARBON	
	R2047	QRD167J-682	6.8K 1/6W CARBON	
	R2048	QRD167J-331	330 1/6W CARBON	
	R2049	QRD167J-103	10K 1/6W CARBON	
	R2050	QRD167J-750	75 1/6W CARBON	
	R2051	QRD167J-562	5.6K 1/6W CARBON	
	R2052	QRD167J-152	1.5K 1/6W CARBON	
	R2053	QRD167J-821	820 1/6W CARBON	
	R2054	QRD167J-331	330 1/6W CARBON	
	R2055	QRD167J-561	560 1/6W CARBON	
	R2056	QRD167J-103	10K 1/6W CARBON	
	R2057	QRD167J-682	6.8K 1/6W CARBON	
	R2058	QRD167J-331	330 1/6W CARBON	
	R2059	QRD167J-103	10K 1/6W CARBON	
	R2060	QRD167J-750	75 1/6W CARBON	
	R2061	QRD167J-562	5.6K 1/6W CARBON	
	R2062	QRD167J-392	3.9K 1/6W CARBON	
	R2063	QRD167J-271	270 1/6W CARBON	
	R2064	QRD167J-331	330 1/6W CARBON	
	R2065	QRD167J-201	200 1/6W CARBON	
	R2066	QRD167J-103	10K 1/6W CARBON	
	R2067	QRD167J-682	6.8K 1/6W CARBON	
	R2068	QRD167J-331	330 1/6W CARBON	
	R2069	QRD167J-103	10K 1/6W CARBON	
	R2070	QRD167J-750	75 1/6W CARBON	
	R2071	QRD167J-562	5.6K 1/6W CARBON	
	R2072	QRD167J-152	1.5K 1/6W CARBON	
	R2073	QRD167J-821	820 1/6W CARBON	
	R2074	QRD167J-331	330 1/6W CARBON	
	R2075	QRD167J-561	560 1/6W CARBON	
	R2076	QRD167J-103	10K 1/6W CARBON	
	R2077	QRD167J-682	6.8K 1/6W CARBON	
	R2078	QRD167J-331	330 1/6W CARBON	
	R2079	QRD167J-103	10K 1/6W CARBON	
	R2080	QRD167J-750	75 1/6W CARBON	
	R2081	QRD167J-750	75 1/6W CARBON	
	R2082	QRD167J-750	75 1/6W CARBON	
	R2083	QRD167J-750	75 1/6W CARBON	
	VR591	QVAA99W-EF5C	250K VARIABLE	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12052-003	CIRCUIT BOARD	
	J241	EMN00YV-309A	3P PIN JACK	
	J254	EMN00YV-205A	2P PIN JACK	
	J255	EMN00YV-205A	2P PIN JACK	
	J256	EMN00YV-304A	3P PIN JACK	
	P290	EMV7122-004	CONNECTOR	
	P560	EMV7122-003	CONNECTOR	
	P561	EMV7122-003	CONNECTOR	
	P590	EMV7122-004	CONNECTOR	
	S241	QST9101-E06	PUSH SWITCH	
	EP001	E70225-001	EARTH PLATE	
	FW315	EWR36B-25LST	FLAT WIRE	
	FW570	EWR35B-25LST	FLAT WIRE	
	FW859	EWR23C-16LN	FLAT WIRE	
	J2	EMD0489-001	PIN JACK	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J2001	EMD0489-001	PIN JACK	
	J2002	EMD0489-001	PIN JACK	
	J2003	EMD0489-001	PIN JACK	
	J2004	EMD0489-001	PIN JACK	
	PA581	EMV5125-013	PLUG ASSY	
	RY245	ESK5D12-214	RELAY	
	RY246	ESK5D12-214	RELAY	
	TP251	QMV5005-002K	PLUG ASSY	

⚠ SAFETY PARTS

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1496A	Instruction Book	1		J
	E30580-1549A	Instruction Book	1		Except J,BS
	E30580-1549ABS	Instruction Book	1		BS
	BT-20048C	Warranty Card	1		J
	BT-20025K	Warranty Card	1		C
	BT20029C	Warranty Card	1	for Australia	A
	BT-20117	Warranty Card	1		G
	BT20060	Warranty Card	1		BS
	BT20098	Audio Warranty	1	for New Zealand	A
	BT20108	Service Instruction Sheet	1		J
	BT20044F	Safety Information Sheet	1		J
	BT20071A	Service Center List	1		C
	BT20066A	ECC Agency	1		BS
	EQB4001-012	AM Loop Antenna	1		
	E304084-001	Loop Stand	1		
	EWP502-005K	Built in Antenna	1		Except G
	E67007-001	Wire Antenna Ass'y	1		G
	QZL1008-001	FTZ Information Sheet	1		G
⚠	E04056	Siemens Plug	1		U
⚠	QMF51A2-6R3S	Fuse	1		U
	E67142-T6R3	Fuse Label	1		U
	E35497-015	Caution Sheet	1	220V	U
	EMZ2001-007	Adapter	1		E
⚠	EMC0202-001BS	AC Plug	1		BS
	E43486-371A	Sheet	1		BS
	RM-SR1010U	Remote Controler	1		
	AM4J-2PSA	Battery	3		
	E6581-4	Envelope	1		U
	E66416-003	Envelope	1		J
	E41202-2	Envelope	1	for Instruction Book	J
	E41202-2	Envelope	2	for Instruction Book	Except J,BS
	E41202-2B	Envelope	2	for Instruction Book	BS

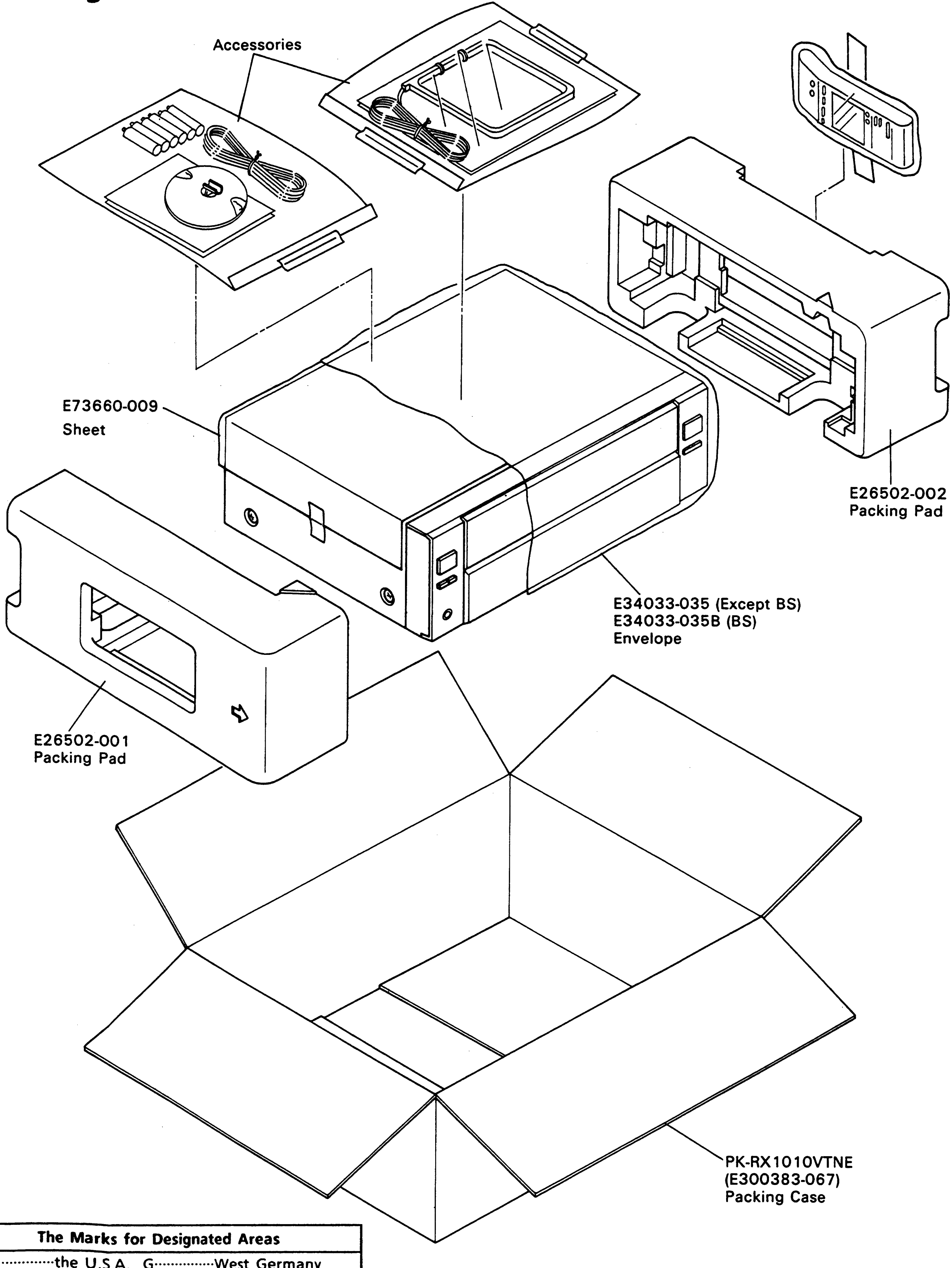
⚠ Safety Parts

The Marks for Designated Areas

J	the U.S.A.	G	West Germany
C	Canada	BS	the U.K.
A	Australia	U	Other Countries
E	Europe		

No marks indicates all areas.

Packing Materials and Part Numbers


Accessories
E73660-009
Sheet
E26502-002
Packing Pad
E34033-035 (Except BS)
E34033-035B (BS)
Envelope
E26502-001
Packing Pad
PK-RX1010VTNE
(E300383-067)
Packing Case

The Marks for Designated Areas	
J··············the U.S.A.	G··············West Germany
C··············Canada	BS··············the U.K.
A··············Australia	U··············Other Countries
E··············Europe	**No mark indicates all areas.**

JVC

SERVICE MANUAL

DIGITAL ACOUSTICS PROCESS SYSTEM RECEIVER

MODEL No. RX-1010VTN

Supplement

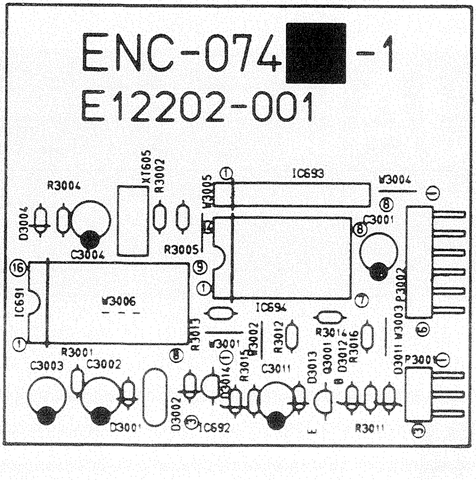
This unit is equipped with a Digital Delay circuit board up to models with the following serial numbers. Models produced thereafter are equipped with a new IC461 (micro-computer), making the Digital Delay circuit board obsolete.

Serial No

□□□□ 0018 ~ □□□□ 1017 : for the U.S.A
□□□□ 0001 ~ □□□□ 0300 : for Europe
□□□□ 0011 ~ □□□□ 0310 : for West Germany
□□□□ 0001 ~ □□□□ 0100 : for Australia
□□□□ 0016 ~ □□□□ 0315 : for Other Countries

No. 20128B
Oct. 1989

■ ENC-074 Digital Delay PC Board Ass'y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R3004
XT605
R3002
IC693
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D3004
C3004
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C3001
IC691
W3006
IC694
P3002
R3001
C3003
C3002
R3013
W3001
R3012
R3014
Q3001
D3012
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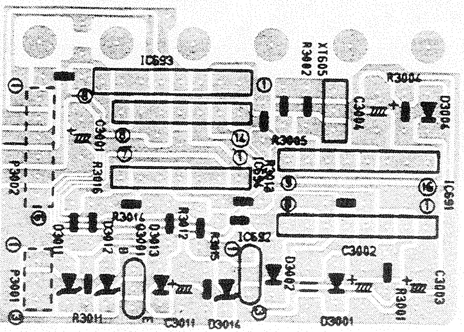
D3002
D3001
IC692
R3011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XT605
R3004
D3004
C3004
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P3002
IC691
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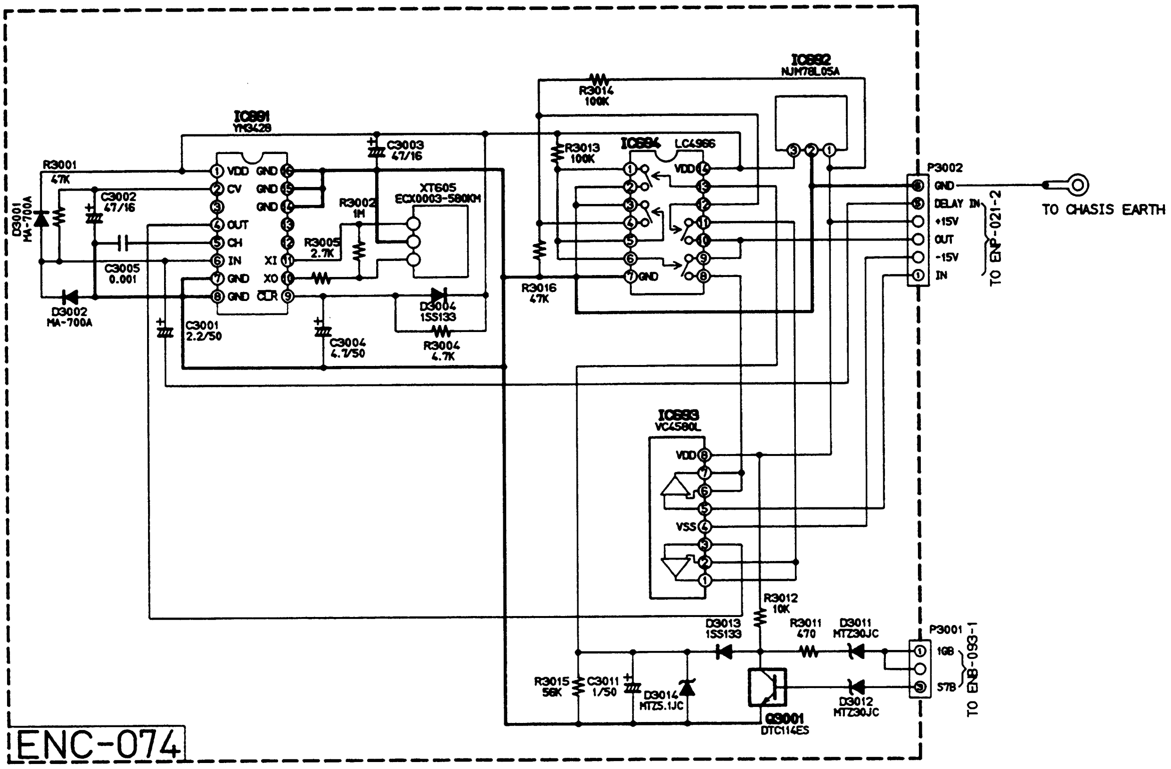
R3012
IC692
C3002
P3001
R3011
C3011
D3014
D3001
C3003
R3001

Digital Delay PC Board A'ssy

Item No.	Parts No.	Parts Name	(Maker) / Rating
IC691	YM3428	I.C.	(YAMAHA)
IC692	NJM78L05A	I.C.	(DAINICHI)
IC693	VC4580L	I.C.	(DAINICHI)
IC694	LC4966	I.C.	(SANYO)
Q3001	DTC114ES	Transistor	(RORM)
D3001, D3002	MA700	Zener Diode	(MATSUSHITA)
D3004	1SS133	Silicon Diode	(RORM)
D3011, D3012	MTZ30JC	Zener Diode	(RORM)
D3013	1SS133	Silicon Diode	(RORM)
D3014	MTZ5.1JC	Zener Diode	(RORM)
XT605	ECX0003-580KM	Resonator	
R3001	QRD161J-473	Carbon Resistor	47kΩ 1/6W
R3002	QRD161J-105	Carbon Resistor	1MΩ 1/6W
R3004	QRD161J-472	Carbon Resistor	4.7kΩ 1/6W
R3005	QRD161J-272	Carbon Resistor	2.7kΩ 1/6W
R3011	QRD161J-471	Carbon Resistor	470Ω 1/6W
R3012	QRD161J-103	Carbon Resistor	10kΩ 1/6W
R3013, R3014	QRD161J-104	Carbon Resistor	100kΩ 1/6W
R3015	QRD161J-563	Carbon Resistor	56kΩ 1/6W
R3016	QRD161J-473	Carbon Resistor	47kΩ 1/6W
C3001	QETC1HM-225	Electro Capacitor	2.2μ 50V
C3002, C3003	QETC1CM-476	Electro Capacitor	47μ 16V
C3004	QETC1HM-475	Electro Capacitor	4.7μ 50V
C3005	QFN31HJ-102	Mylar Capacitor	1000P 50V
C3011	QETC1HM-105	Electro Capacitor	1μ 50V
P3001	QMV5004-003K	3P Plug A'ssy	
P3002	QMV5004-006K	6P Plug A'ssy	
CN3001	EWS013-262	3P Socket Wire	
CN3002	EWS016-107	6P Socket Wire	
---	E75814-001	Protect Cover	for PC Board
---	E12202-001	PC Board	

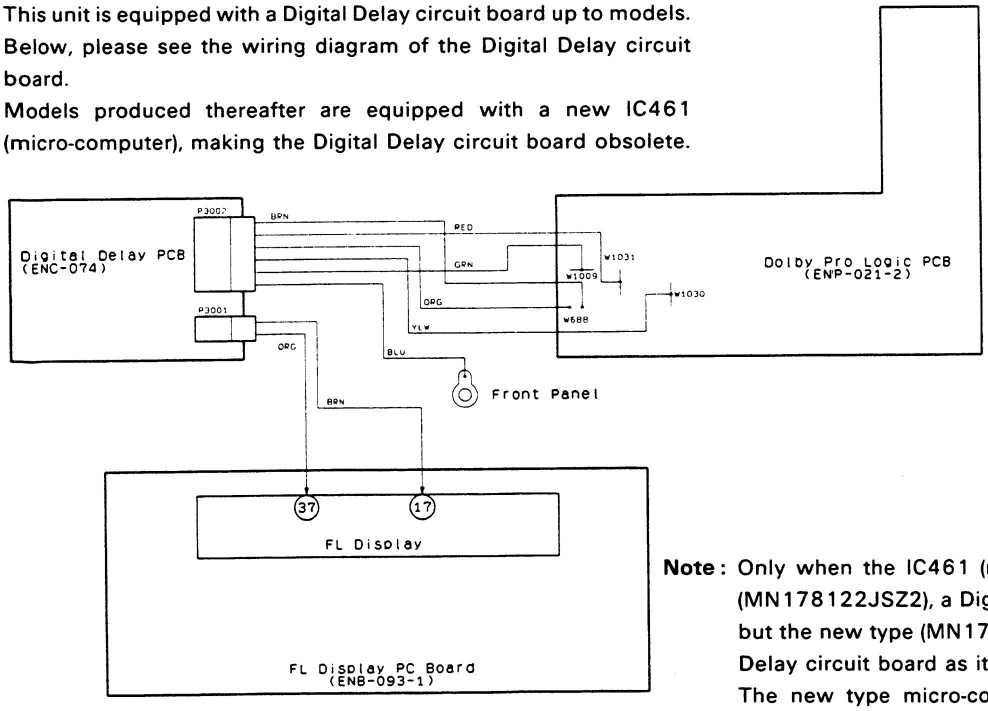
Schematic Diagram


IC891
YM3428
R3001
47K
D3001
MA-700A
C3002
47/16
C3005
0.001
D3002
MA-700A
C3001
2.2/50
VDD
CV
OUT
CH
IN
GND
XI
XO
CLR
C3003
47/16
XT605
ECX0003-580KM
R3002
1M
R3005
2.7K
D3004
1SS133
C3004
4.7/50
R3004
4.7K
R3014
100K
R3013
100K
IC894
LC4966
R3016
47K
IC892
NJM78L05A
P3002
GND
DELAY IN
+15V
OUT
-15V
IN
TO ENP-021-2
TO CHASIS EARTH
IC893
VC4580L
VSS
R3012
10K
D3013
1SS133
R3011
470
D3011
MTZ30JC
R3015
56K
C3011
1/50
D3014
MTZ5.1JC
Q3001
DTC114ES
D3012
MTZ30JC
P3001
1GB
S7B
TO ENB-093-1
ENC-074

Connection Diagram

This unit is equipped with a Digital Delay circuit board up to models. Below, please see the wiring diagram of the Digital Delay circuit board.

Models produced thereafter are equipped with a new IC461 (micro-computer), making the Digital Delay circuit board obsolete.


Digital Delay PCB
(ENC-074)
P3002
P3001
BRN
RED
GRN
ORG
YLW
BLU
ORG
BRN
W1031
W1009
W1030
W688
Dolby Pro Logic PCB
(ENP-021-2)
Front Panel
37
17
FL Display
FL Display PC Board
(ENB-093-1)

Note: Only when the IC461 (micro-computer) is of the old type (MN178122JSZ2), a Digital Delay circuit board is installed, but the new type (MN178122JSZ3) dose not have a Digital Delay circuit board as it is not needed.
The new type micro-computer (MN178122JSZ3) can be used instead of the old type micro-computer. (Newer micro-computers can be used instead of the older ones, but the older ones can not be used instead of the new ones.)